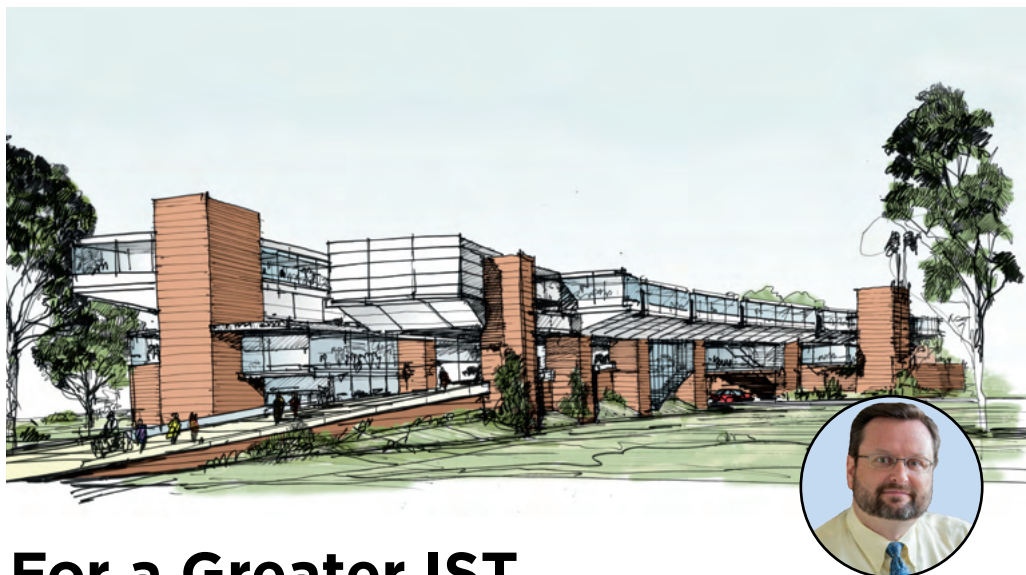What is "good" design?

Process:

- Problem Statement
- Ideate
- Prototype
- Implement
- Test
- Iterate

TAKING CHARGE

How IST students are supporting their classmates to take ownership of their education and professional opportunities.

For a Greater IST

By all measures—enrollments, strength and diversity of programs, research activity, career success, constituent engagement, and giving—the state of our college is strong.

When I look to the future, however, I think about what could make us stronger. In doing so, I'm reminded of Penn State President Emeritus Eric J. Barron's remarks in late 2016, as he kicked off "A Greater Penn State," the University's recent fundraising campaign (p. 28):

"The culture of Penn State is one constantly focused on how to do more and how to do better. We are not satisfied with being a great University … we can commit ourselves to becoming a truly great public institution. So, the key question is, how can we make our great University even greater?"

The College of IST's strategic plan outlines our steps to become greater. Our knowledgeable faculty, dedicated staff, engaged alumni, and passionate students drive us forward. But one theme underscores everything we pursue: the value of giving. Time, talent, and treasure at any level—they all make our great college greater.

Giving provides more opportunities for more students to access an IST education. It helps relieve the additional burden many take on through loans or by working multiple jobs, which often limits their ability to graduate on time—or at all. Giving helps students achieve a timely degree with the skills needed to pursue a meaningful and successful career.

Giving creates experiences that expand and enhance classroom instruction, transforming how students connect what they learn to the world around them. This commitment to engaged scholarship—primarily through internships, professional development, and student research—prepares students to become lifelong learners for an everchanging, global workforce.

Giving equips faculty, scholars, and students alike with the necessary resources to pursue solutions to society's most pressing challenges. By focusing on our four core imperatives, we are advancing interdisciplinary research that produces scholarly insights and real-world impact at the intersection of information, technology, and society.

These gifts of time, expertise, and money are selfless acts that demonstrate a belief in our college's current state and a commitment to creating a greater IST. Every gift of every size has real value, but the alumni and friends who make these gifts are invaluable.

Andrew Sears, dean
College of Information Sciences and Technology

PennState
College of Information
Sciences and Technology

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Up, Up, and Away

Views from the front of the Westgate Building typically get all the attention, but those who look back toward campus can take in one of the most picturesque scenes Happy Valley has to offer.

Bringing Their Authentic Selves

First-ever Be You in Tech Summit inspires students to know and embrace their stories

Through presentations, interactive activities, a panel discussion, and networking, participants in IST's inaugural Be You in Tech Summit were inspired to embrace their identities and discover how they can drive professional and personal success.

Themed "Bringing Your Authentic Self to the Information Age" and presented in partnership with RSM US LLP in April, the daylong event connected Penn State students and corporate partners to celebrate the strength of diversity in technology.

Jane Schneider (senior, data sciences) participated to inform her own thinking. As vice president of the Women in IST student organization and a technology risk and privacy consulting intern with RSM this summer, she wanted to explore corporate culture around diversity and how it could support her work as a student leader.

"I learned the importance of vulnerability and empathy, how important it is to put yourself in someone else's shoes and try to understand their circumstances," said Schneider. "Participating helped me be more comfortable in sharing my experiences and gave me more confidence in what I can bring to the table."

During the summit, students shared stories and heard perspectives from corporate leaders at RSM, SAP, Penn State, and Omega Minds. RSM was inspired to support the event to engage students in conversations around career development, building community, and how diversity and inclusion impact technology.

"RSM recognizes the importance of diversity of thought to an organization's success, and that it's not good enough to sit back and wait for a diverse workforce focused on technology to magically appear," said Sudhir Kondisetty, principal at RSM. "RSM is committed to helping build that workforce by investing in the development of these students so they understand the benefits a career in technology can bring to them."

That commitment and urgency was appreciated by the students.

"It is important for me to bring my authentic self to the world because it brings new insights and solutions," said **Jonathan Santana** (senior, cybersecurity analytics and operations). "Once I am comfortable being my authentic self, I can bring my fullest value and potential to the world and have the biggest impact I can."

Faculty honored with University awards

Five College of IST faculty were recognized by the University during the 2022 Faculty and Staff Awards for teaching and excellence on April 14. Despite having only 81 full-time faculty and operating as one of the University's smaller academic units, IST's five awardees were the most of any college at Penn State.

"It fills me with tremendous pride to see the inspiring and meaningful work of our faculty recognized with these awards,"

said Andrew Sears, dean of IST. "These recipients represent the best qualities our faculty and staff bring to our community—leadership, collaboration, innovation, and compassion. We are fortunate to work alongside this year's recipients and are grateful to the nominating committee for their efforts to recognize their colleagues."

JEFF BARDZELL, Associate Dean of Undergraduate and Graduate Studies

The McKay Donkin Award

For providing care and concern for students and faculty, and giving a sense of confidence with compassionate yet decisive action that balanced student and faculty needs during the pandemic.

FRED FONSECA, Associate Professor

The Penn State Alumni/Student Award for Excellence in Teaching

For distinguished teaching on the implications of developing emerging technologies and helping students consider their impacts on users and society at large.

SHARON HUANG, Professor

The Undergraduate Program Leadership Award

For her exemplary leadership as coordinator of the applied option in Penn State's data sciences undergraduate degree program, which she has helped grow from 30 to more than 150 students.

CARLEEN MAITLAND, Professor

The Faculty Scholar Medal: Entrepreneurship, Technology Transfer and Economic Development

For her interdisciplinary approach to education and research, which focuses primarily on using technology to better understand and resolve refugee crises.

FRANK RITTER, Professor

The Graduate Faculty Teaching Award

For his outstanding teaching performance and advising of graduate students, with his emphasis on collaboration, professional development, and supporting the whole student.

An app to support Black moms

IST-student-led prototype focuses on physical and mental health

Students from IST and the College of Health and Human Development have created a mobile health application in support of a global initiative to redefine Black motherhood. Through internships with Surge Community Consulting, the students partnered with Chicago-based MOMLogics—an online platform that supports and advocates for the emotional and mental wellness of Black mothers—to conduct market research and lead focus groups to understand unique challenges that Black mothers face.

Last summer, students conducted initial market research to understand, in part, why Black moms are more susceptible to certain diseases and why many often feel stressed and overwhelmed. They then designed an initial app prototype based on those customer specifications.

"We did research on health disparities among moms from different racial backgrounds as well as struggles Black moms face with getting mental health support," said World Campus IST student **Amanda Gwinn**, who served as team lead this spring.

A separate group of students worked last fall to finalize an app prototype, which will move forward to market through a professional developer.

"We condensed the app to only have a few features that moms needed in order to help prevent or caution them on their mental or physical health," said IST student **Eric Weah**, who served as team lead last fall.

Weah not only contributed technical skills he has learned at IST, he also applied critical interpersonal skills.

"At IST I have been able to work in teams, which allowed me to be comfortable in being the team lead for this project," he said. "Being in the IST program has also allowed me to quickly understand and work with new applications and software, as well as to be able to translate more technical concepts to someone who may not be so technical."

The app features preventative and interventional programming for Black moms as they face the mental and emotional stress of parenting. It serves as a supplemental tool supporting MOMLogics' offerings, which include courses, coaching, events, and ambassadorship.

"The stereotype is that a Black mom is a bonnet-wearing, single, welfare recipient. There is also this intercultural pressure to be a supermom—we want to do it all on our own [without] any support or help," said Lavelle Hall, founder of MOMLogics. "There are myths that MOMLogics wants to shake up and debunk, so we can show up in the way that we truly are: moms who are not superhuman but have super hearts and want to care for our babies."

Hacking with the PA National Guard

In March, the Pennsylvania National Guard hosted a Cyber Wi-Fighter Hacking Challenge at IST to promote cyber operations career options to Penn State students interested in cybersecurity.

"It's surprising, but many people really don't understand what the National Guard is, what we do, or what we have to offer," said Army **Staff Sgt. Richard Hess '01**, who earned an associate degree from IST and led the challenge. "We have numerous benefits that can assist students with college, preparing for their future careers, and more. This is an opportunity to get the word out and start a conversation."

In a capture-the-flag format, challenge participants deciphered clues and answered questions with varying degrees of difficulty, gaining points and flags for each correct answer.

"It was a good experience that will prepare me and has given me a better idea of what I need to learn before heading into the industry," said challenge participant and **ROTC Cadet Ganesh Denduluri** (senior, cybersecurity analytics and operations).

Afkara Mason (Top); SSG Willis, PA National Guard (Inset)
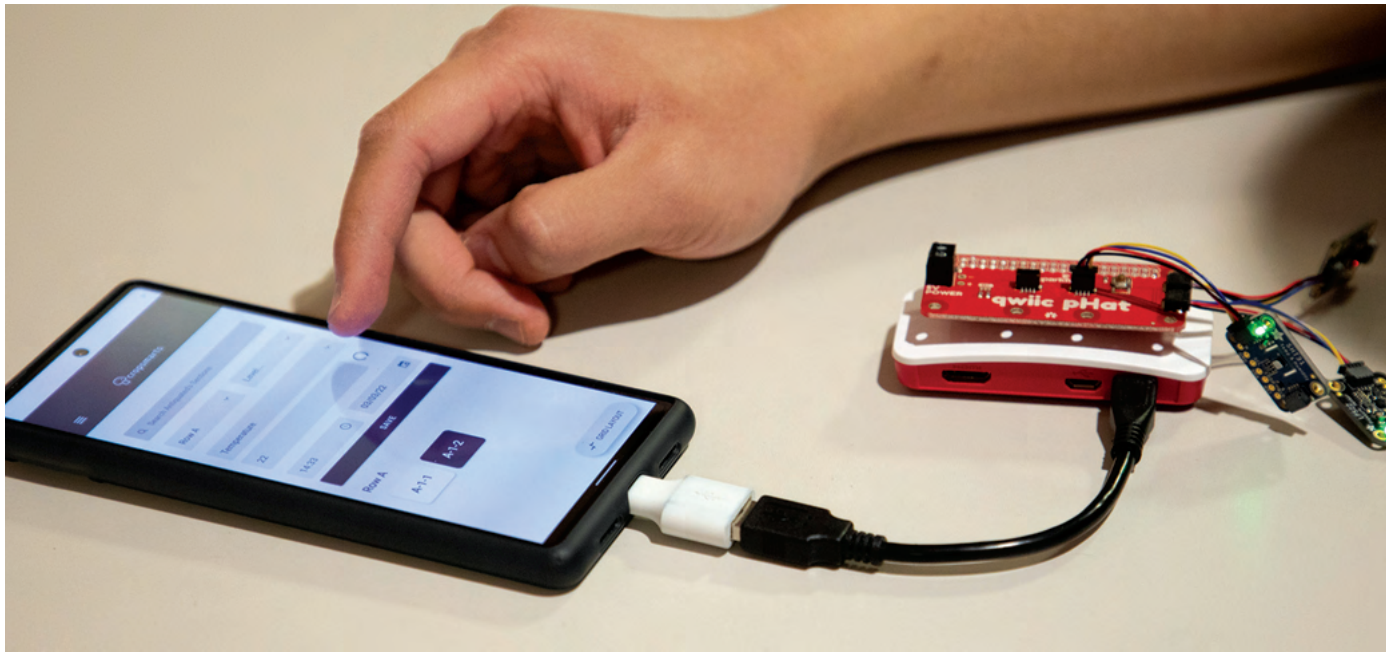
Taking measures for mushrooms

IST students are aiming to speed up and streamline the collection of important environmental data that impacts the mushroom farming industry through a new digital solution supported by a grant from the USDA through the Penn State Mushroom Research Center.

Working with **Steve Haynes**, teaching professor of IST, the team has developed Cropsmarts, a suite of web and mobile software applications integrated with custom-built Internet of Things (IoT) technology. The app aims to improve the industry's existing labor-intensive data collection of critical daily crop measurements such as temperature, humidity, compost, pests, and disease—much of which is currently recorded by hand on paper. Currently in beta testing, their work could help mushroom farmers more easily and more quickly identify environmental patterns that might influence mushroom crop production.

"The idea is to get a dataset of farms and understand how we can improve crop production over time using the information we have," said **Justin Wu '20 '22g**.

As a developer on the project, Wu led the design of prototype remote sensing tools that could contribute to mushroom growing operations—including a commercial digital meat thermometer that he converted to an IoT device to measure soil temperature and transmit data to the app. He also integrated a Raspberry Pi with off-the-shelf sensors to create a system that constantly logs environmental information, such as temperature, humidity and carbon dioxide, to send to the Cropsmarts mobile and web apps.

"We're working to be able to use the IoT devices to take measurements for environmental control to provide data we can put into visualizations, and eventually use them to generate insights with technologies that we can use to improve crops," he said.

CHALLENGE ACCEPTED

Gia Nguyen (senior, data science) and **Maria Czura** (junior, human-centered design and development) are working on an interdisciplinary team to create SchizophrenAI, a health care app designed to reduce the subjectivity of diagnosing schizophrenia. Their work, which is part of the nine-month long Nittany AI Challenge, aims to alleviate the difficulty of providing mental health care in remote areas.

Photos provided (Bottom)

Developing a database for dancers

Eugene Ryoo launches subscription service startup to help ballet students pursue and manage opportunities

How can a student studying cybersecurity analytics and operations make a positive change for the professional ballet industry?

Eugene Ryoo '22 did just that, after working with a team of Penn State students to create a centralized system where dancers can locate auditions, training programs, jobs, and housing.

Ryoo partnered with high school friend and Penn State student Rob Fulton, a dancer with the Nevada Ballet Theater. Along with fellow Penn State student Sasha Ahrestani, they launched The Ballet Scout, a subscription database service for dancers.

"The purpose of the site is to help ballet students and their parents plan out their next career move," said Ryoo, who helps to develop the technology for the team. "I was initially supposed to come on as a cybersecurity analyst, but in practice I am more of a developer."

Ryoo joined the project, then named Eclaireur, in January 2021—just in time for last year's Bardusch Family IdeaMakers Challenge, a pitch competition hosted by the College of IST during Penn State Startup Week. Ryoo's team won first place, thanks in part to mentorship provided by Elizabeth King '79 Lib (p.29), an outgoing member of the IST Dean's Advisory Board and former vice president of human resources solutions of Starbucks Corp.

Ryoo drew upon his IST classroom experiences to propel The Ballet Scout forward. He attributes his attention to detail when coding to a programming class he took last semester.

"Before this class, I just considered myself sort of a code monkey," Ryoo said. "Basically, if it works, it works and it doesn't matter how dirty it is. But the instructor taught us to think about things like large problems, and then break them down through code."

Since winning in the IdeaMakers Challenge, The Ballet Scout has been gaining recognition across campus. The team was selected as one of six finalists in the Invent Penn State Inc.U Competition, through which Ryoo and his teammates competed on "The Investment," a WPSU Shark Tank-like television production. They also were one of six student startups selected for the Invent Penn State Summer Founders Program, receiving a $15,000 grant to work full time on the project this summer at Happy Valley LaunchBox powered by PNC Bank.

STANDOUT STUDENTS

Tanishq Barot
Founded WeAreLiving, an online marketplace for tenants to find roommates, resolve disputes, and exchange leases, earning top prize in the 2022 Bardusch Family IdeaMakers Challenge.

Mark Campbell
The current doctoral student, who earned his bachelor's degree from IST in 2003, was named associate vice president for infrastructure in Penn State IT.

Kathryn Frankenberg
The May 2022 graduate was named Penn State's inaugural recipient of the Westin Scholar Award, presented to future leaders in the field of privacy or data protection.

26-year-old IST student earns second doctorate

After advancing research on detecting and lessening the effect of online misinformation, Limeng Cui begins career as an applied scientist with Amazon

This spring, IST graduate **Limeng Cui '22** earned her second doctorate, at age 26.

A precocious student since a young age, she was admitted to the Experimental Class for Exceptionally Gifted Children in Beijing at just 10 years old. To enroll into the program, which has a 2% acceptance rate, Cui had to complete three rounds of rigorous tests.

"It is a specialized accelerated program where students finish grades five through 12 in four years," she said. "Then I enrolled at college at age 14."

In 2013, she received a bachelor's degree in software engineering from Beijing Institute of Technology. Then, she completed her first doctoral program, in computer applied technology, at the University of Chinese Academy Sciences.

There, Cui studied support vector machines and tensor analysis and decomposition. While this research experience laid a solid mathematical foundation, she wanted to strengthen the connection between her research and real-world professional applications.

"As post-doc positions usually provide further training in the same field, I decided to apply to another graduate program instead where I could use my science knowledge to build more humanized technologies," she said.

She chose the College of IST because of its interdisciplinary program.

"The core vision at IST includes information, technology, and human-centered-design, which makes the research have a broader impact on society," she said. "I was impressed by the cutting-edge research conducted by people from diverse backgrounds, and the multidisciplinary projects led through interlaboratory and interdepartmental collaborations."

Cui's research focuses on how to detect online misinformation and lessen its effect —a challenging problem, she said, due to the multimodality, interpretability, and costs of human annotation.

"I leveraged various types of information from different perspectives to understand and detect misinformation," she said. "For example, user engagements over news articles, including posts and comments, contain justification about the news article. These auxiliary data provide rich contextual information for more accurate and interpretable detection."

She has presented her work at top conferences in social network analysis and artificial intelligence. Cui has also completed research internships at Amazon, Facebook AI, and IQVIA— ultimately receiving full-time offers from all three companies. She will begin her career as an applied scientist with Amazon.

"These internships helped me learn what skills I needed to practice more and what I was already good at," she said. "I acquired the ability to network and build personal relationships."

Amber McCullough
Led a Women in IST effort to update the Wikipedia profile for Professor Mary Beth Rosson, addressing the gender gap that exists in the platform's bios.

Jonathan Santana
Won the HackPSU 2022 Supply Chain Challenge for Shop-Over, an app designed to combat food supply waste by allowing businesses to sell discounted leftovers to college students.

Jingyi Xie
Doctoral student won first place in engineering at the 2022 Penn State Graduate Exhibition for her poster, "Iterative Design and Prototyping of Computer Vision Mediated Remote Sighted Assistance."

Stakeholders are key in facial recognition tech

Facial recognition technologies —such as Apple's Face ID—are a common way for users to safely access their personal devices. But how do perceptions change when similar technologies are deployed in public settings, especially without users' buy-in?

According to IST doctoral student **Yao Lyu**, an organization's decision to use facial recognition technology in public —and whether stakeholders are involved in that decision— could not only lead to users' concerns of privacy, data security, and bias toward minority groups, but could also reveal issues of justice and fairness within the organization itself.

"Technology is created by humans, and humans can be easily biased, so technology is never neutral," said Lyu.

Unlike personal devices, facial recognition in public may capture and use individuals' images without their consent. This has led to controversy—most notably surrounding concerns of privacy and disproportionate misidentification of women and people of color.

Lyu's research team investigated how people responded to the unannounced installation of facial recognition technology to access a shared workspace at public U.S. universities, where use of the technology is on the rise.

They found that most people were initially uncomfortable with or confused by the decision to install the system, while a minority were curious or impressed. Over time, most initially in favor gradually became less supportive, and most initially neutral came to accept the technology, but with some reluctance. Regardless of their impressions, however, most were frustrated to be omitted from the decision-making process and that their consent was assumed.

The researchers hope their findings help organizations make informed decisions when implementing novel and sometimes controversial technology.

Said Lyu, "New technologies are introduced to our lives every day, oftentimes with promise of bringing us more convenience … but there are also people concerned with the potential problems of the technology. The question is: does the convenience outweigh the concerns?"

Lyu's research was presented at iConference 2022 in March, where it was a finalist for the Lee Dirks Award for Best Full Research Paper.

Tips for Safe Sharenting

Recently, Kanye West and Kim Kardashian publicly feuded over an emerging parenting concern: whether their young daughter should have a Tik Tok account. Assistant Professor **Priya Kumar**, who studies how datafication of family life affects privacy and agency, discussed this challenge in an editorial for NBC News and provided tips on how parents can safely usher children onto social media.

1. **Know you're not alone.** Seek insights and support from others on how to best manage your family's digital disclosures.

2. **Be transparent.** Talk openly with your child about their digital presence and encourage them to discuss their online interests with you.

3. **Compromise.** Develop a plan based on shared understanding. Consider a private account and set rules about what is (and isn't) OK to post.

Read more of Kumar's perspective at **ist.psu.edu/kumar-nbc**.

Zephyr_p (Top); Watercolor_Concept (Bottom)-stock.adobe.com

Connor Heaton

Better Baseball Stats

Doctoral student **Connor Heaton** explains a new approach to measuring baseball players' performance. His novel machine learning model expands the existing family of baseball statistics, known as sabermetrics, by viewing the game as a sequence of events and examining the context that surrounds each individual play.

Thinking differently about metrics

When a player hits a single, that event is recapped in one summary statistic. But the player could have hit a dribbler down the third base line, advancing a runner from first to second and beating the throw to first; or he might have hit a ball to deep left field and reached first base comfortably but didn't have the speed to push for a double. Both scenarios result in a single but do not tell the whole story. I wanted to take a more holistic picture of the game and get a more nuanced computational description of players' impact.
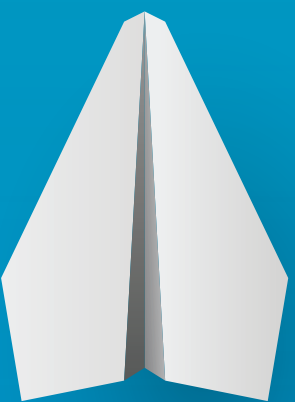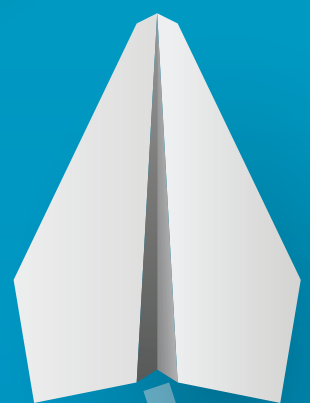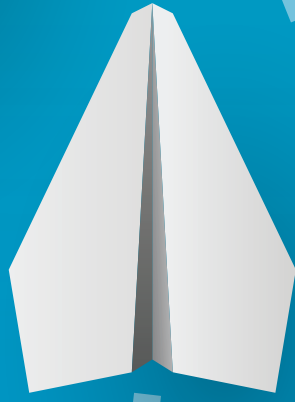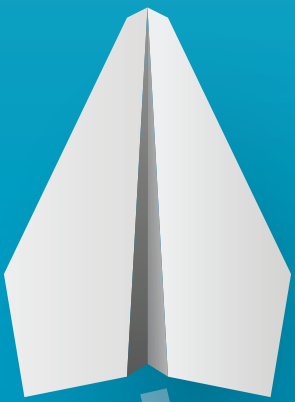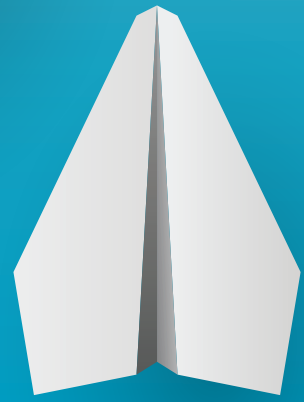
The state of analytics

In natural language processing (NLP), there is an ecosystem built up around modeling language as a sequence of words. It seemed like there was potential for it to be adapted to model sequences of other things. I started thinking about the state of analytics in different sports and what could be done to improve our understanding of the game.

Creating a new model

Traditional sabermetrics analyze the game in longer time periods, like predicting a player's full-season stats compared to an average replacement player. Our model draws on recent advances in NLP to learn the meaning of different events based on the impact they have on the game and the context in which they occur. Then, the model outputs numerical representations of players' in-game influence through a sequence of events—deviating from the classic approach where just summary statistics are examined. When viewed over time, similar sabermetric-based representations of player impact can be somewhat sporadic, changing significantly from game to game. Our method helps smooth out the way players are described over time while still allowing for fluctuation in player performance. Both can help differentiate good players from bad players, but ours provides much more nuance into the exact way in which the good players impact the game.

RESEARCH BRIEFS

HIGHEST HONOR

James Wang has been conferred the title of distinguished professor, the highest professorial distinction at Penn State. The title recognizes Wang, who joined the college in 2000, as a preeminent scholar in data sciences and AI research and for his significant leadership in raising the University's standards in teaching, research, and service.

PROMOTED PROFESSORS

Sharon Huang and **Lynette Yarger** have been promoted to professor. Huang's research works toward robust medical imaging software based on computer vision and machine learning algorithms that aid medical doctors in accurate and reproducible diagnoses. Yarger, who also serves as the assistant dean for equity and inclusion in the Schreyer Honors College, uses critical social theories to examine the ways in which historically underserved groups appropriate information and communication technologies to improve their life chances.

SHINING BRIGHT

Dongwon Lee, professor, received a 2022 Fulbright Cyber Security Scholar Award. During the upcoming academic year, Lee will visit the psychology department at the University of Cambridge to conduct collaborative research on misinformation and build a computer game to train citizens not to easily fall for deepfakes and other mediafakes.

TAKING THE LEAD

Far from passive participants, IST students are taking ownership of their education and enriching the learning experience for their classmates through a variety of student-led learning initiatives.

Penn State students have numerous opportunities to enrich their educational experience—from internships to extracurricular activities to real-world case studies. At IST, students are leading, shaping, and enhancing these academic and professional development opportunities for their peers by taking ownership of the experience, both in and out of the classroom.

A Helping Hand

In many IST classes, learning assistants (LAs) help students obtain a deeper understanding of the material covered in the course. LAs are students who have successfully completed the course, putting them in a unique position to help their peers learn from a place of personal understanding.

But LAs' hands-on participation in the learning process doesn't just benefit students enrolled in the course; for many LAs, helping others learn is also a way for them to reinforce their own knowledge and pay their experience forward.

"I not only thought it was a good opportunity to hone my own problem solving and coding skills, but I also wanted to provide the same assistance that I had received from my wonderful LAs when I took the class," said **Kaitlyn Bridge '22**, who served as an LA for an application development course last spring.

Bridge, like many LAs, had no teaching experience prior to serving in the role. But with the support of the course's instruc-tor, assistant teaching professor Jeff Rimland, and the college's teaching preparation activities—which include a required teaching preparation course for all LAs—Bridge strengthened her skills and developed her own teaching style.

"Certain students learn best through analogies, technical explanations, or examples, and it can take trial and error to determine what works best for a given student," she said. "But the moment when a student finally understands the concept makes all the time and effort worth it."

LAs also serve to expand the capacity of the college's instructors, extending the individualized guidance and support that is provided to students.

"My LAs give students one-on-one attention and help them troubleshoot when they run into problems with their code," said **Rosalie Ocker**, teaching professor. "I can't do it all myself. I needed help."

Sneha Prem Chandran (sophomore, data science) is one of many IST students who have benefited from having a peer to guide them in the classroom. When the instructor was helping another student or if she felt overwhelmed, Prem Chandran looked to her LA.

"I knew I could always count on my LA to help me through the assignment," said Prem Chandran, who now serves as the assistant director of the college's LA program.

Another level of support that is spearheaded by IST students is one-on-one peer tutoring. Offered twice each week for most

By Rachel Rubin and Hope Damato

100-, 200-, and 300-level classes, the program also hosts workshops to further strengthen students' understanding of specific programming languages and technical concepts, such as Go, web scraping, Python, and React.

Jimmy Kane '22, who served as co-coordinator of the peer tutoring program, helped his classmates learn through tutoring since he was a sophomore.

"Tutors know the concepts in courses and can speak knowledgably with their professors and industry professionals," said Kane. "Tutors pass this skillset on to students who may have missed a class, forgotten a concept, or simply want to sharpen their skills."

Leading the Class

This spring, two IST students were leading the learning process in an IST classroom. **Erica Mi** (senior, IST) and **Carrigan Morabito '22** served as course instructors for "Conversations with Interactive Media," a course offered through the University's Students Teaching Students (STS) program.

STS is a student organization that positions undergraduate students to teach an official elective course under the supervision of a faculty member. The courses are designed to foster peer-to-peer collaboration, while focusing on niche or trending topics not otherwise found in the Penn State curriculum.

Under the guidance of Associate Professor **Fred Fonseca**, Mi and Morabito selected their topic and developed a curriculum to explore how video games, computer games, augmented reality, and other interactive media can be used to facilitate difficult discussions about technology.

"The most rewarding part is knowing that students registered for our course because they thought it would be an interesting topic," said Mi.

In addition to leading discussions on topics focused on relevant ideas in technology and potential areas that students may encounter in the workforce, Mi and Morabito took the class on a field trip to The Dreamery (p. 26), a Penn State initiative that gives members of the University community hands-on experience with emerging technology. There, students had the opportunity to visualize how augmented and virtual reality could become more common in the future.

The smaller class size and interaction with peer instructors creates an approachable and open environment that fosters deeper learning, according to **Jack Lutfy** (junior, human-centered design and development) who took the course last spring.

"Having student teachers is great because they can relate to your workload and want to help us understand the material while also being interested in the class," said Lutfy. "The level of communication in our class is superior because of Erica and Carrigan. It's easy for us to talk to them so our class discussions feel so open and welcoming."

Jess Strait '22 also led an STS course last spring; she co-taught "Period Talk: The Impact of Stigma on the Menstrual Equity Movement" through the College of the Liberal Arts. The curric-

ulum was built on Strait's volunteer work at Penn State through Days for Girls, a nonprofit that aims to alleviate period policy.

"My co-instructor and I were challenged to become real experts on our topic. We both had interest and experience but taking the time to conceptualize and build lectures every week took a new level of research and commitment," said Strait. "But the program was a perfect senior send-off for me; it was an opportunity to culminate much of what I've learned about menstrual equity during my time at Penn State and share that knowledge with others so they can continue the work in future years."

Strengthening Skills and Networks

Students leading students in expanding their knowledge and skillsets doesn't stop in the classroom. Several IST student organizations have been formed to enhance the learning process for students in the college's newest majors; others have hosted networking and professional development events to prepare students for the workforce and connect them with industry leaders.

The User Experience Professionals Organization (UXPA), which launched in 2020 to supplement the college's new human-centered design and development degree program, serves as a consulting firm for user experience (UX) and user interface (UI) design and research. Its members create prototypes, apps, and website designs; run usability studies; and research prospective users. UXPA works with organizations within and outside of Penn State.

Lauren Pearl (senior, human-centered design and development) is the founder and three-year standing president of UXPA who has worked to integrate student learning with service.

"We have made Penn State better for students by revising outdated technologies around campus and in the community to make them usable and enjoyable to interact with as students," said Pearl.

Many students join UXPA to gain real-life work experience in a low-risk space where they can learn and apply their UX/UI skills.

Several IST organizations also partner with companies to train students to be the best candidates for jobs through professional development.

This is exactly what Nittany Data Labs (NDL) aims to accomplish, according to **Chloe Levine '22**, the student organization's outgoing executive marketing and communications director.

"Students join our organization to learn data science and increase their employability overall," said Levine. "We are the largest data science organization on campus with the most resources."

NDL hosts weekly meetings where they explore different data science concepts. One meeting this spring featured a partnership with local firm KCF Technologies, during which a panel of six current employees answered student questions.

"This event with KCF went very well," said Levine. "The students were very interactive and there will be another event next year. One student even left accepting an internship with KCF."

Other IST student organizations provide similar opportunities to its members and the larger student body. Last year, the Women, International, Racial, Ethnic Diversity Intercultural Network (WIRED IN) sponsored events like Case Studies with EY, a social with the FBI, and a Reverse Job Fair with CGI. These events helped students from underrepresented backgrounds network with representatives from leading employers in an industry where there is a considerable gender and diversity gap.

"The game night with the FBI was an amazing opportunity for our members to be in a calm, fun environment with such a serious organization and still be able to ask questions," said **Divine Ukpaiama** (senior, IST), president of WIREDIN.

Peers Supporting Careers

In addition to the college's professional counselors, IST students seeking career and internship advice can now also turn to their classmates for insights. Launched in 2013 by Penn State's Office of Student Affairs, the Peer Career Assistant program connects highly trained students—many of them from IST—with others to provide resume and cover letter editing, resource assistance, and interview preparation.

"My favorite part of the program is giving mock interviews with students," said Rahil Mehta (senior, data sciences), who has served as a peer adviser since 2021. *"I love to learn more about their experiences and provide feedback to help increase their chances of landing their dream jobs and internships."*
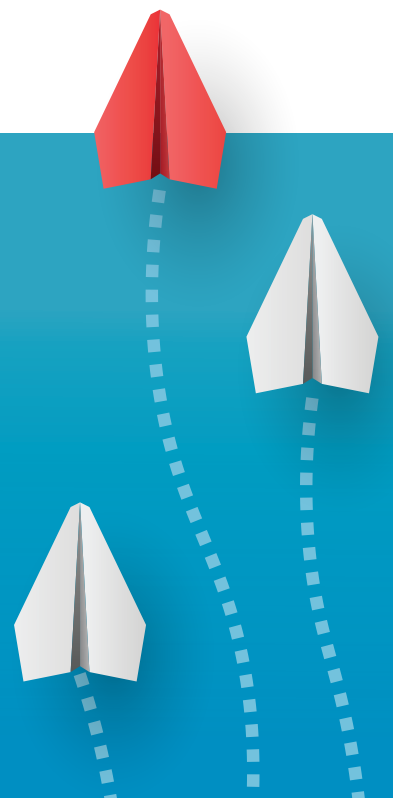
THE
FAR R
OF AN IST DEGREE

From health care to television, sports to federal agencies, graduates are using their IST skills and knowledge to make an impact in a wide range of industries and companies around the world.

By Jessica Hallman

In the 20 years since the first IST degrees were conferred at Penn State, there have been countless changes to technology and the industries in which graduates have gone on to work. The knowledge and skills alumni gained at IST have prepared them to address the biggest tech advances and challenges across domains—from government to retail to entertainment—and to monitor emerging trends and concerns that

similar. Brant-Gargan built a foundation at IST that has allowed her to apply critical skills and knowledge broadly to make a profound impact on her organization's strategic goals—no matter which company it was.

"IST gave me an introduction to most aspects of technology and the various needs of an organization: project management, networking, and development organizational design," she said. "These topics are the build-

we create."

At another well-known company in the food and beverage industry, **Heather VanGorder '20** works to ensure the seamless electronic exchange of information and data as an IT associate analyst at PepsiCo.

"Whenever you check out in a store and see Pepsi beverages in the coolers, my team is the one that set up the mapping and got the product there," she said.

REACH

impact our ever-evolving society.

"The beauty of technology is that it's everywhere across all industries," said **Jen Brant-Gargan '09**, global chief information officer for Bacardi.

Brant-Gargan is responsible for overseeing all IT for the spirit company known for its rum, but throughout her career she has led technology teams for top brands, including Nike and Estée Lauder, Viacom, and JPMorgan Chase.

While each company's mission varies, the IT needs, challenges, and emerging trends across industries are

ing blocks for everything I do."

Throughout her career, Brant-Gargan has aimed to understand consumer behaviors and the latest technologies, then develop creative ways to bring them together. At Bacardi, her team aims to stay ahead by deploying innovative technology solutions to meet the customer where they are.

"I believe technology will overlay our day-to-day lives in incredibly innovative ways," she said. "This world will bring information and transparency, as well as creativity and excitement, to the products

VanGorder observes current trends and technological advances being made by divisions within Pepsi—from using bots to automate and optimize workloads to the growing metaverse.

"The most rewarding part of my job is seeing the financial benefits my team brings to Pepsi," she said. "Not only do I help with the back end of the company, but I also work on the front end. Everyone's work makes a difference in the company, but I get to see my work alone economically benefit Pepsi."

Reaching for the Sky

The college's curriculum similarly impacted **Megan Tucker '18,** an IT business partner for Boeing where she has worked since her internship during her sophomore year at Penn State.

"IST gives you a wide knowledge base of many different areas of the IT world which allows you to pick any path and industry that you find interesting and want to develop more into," she said.

Tucker serves as the IT focal point for one of Boeing's new defense helicopter programs, working to ensure all IT requirements are met and communicated. In her role, she is witness to the development and testing of top technologies.

"I work closely with our IT enterprise team and our suppliers to ensure that requirements and need dates identified by the program are communicated while recognizing these technologies will become more mature over multiple iterations of development," she said. "I really enjoy knowing I'm contributing to a much larger team with the tangible end goal of creating a helicopter if we operate successfully."

Carol DeBose '09 '21g has also looked to the skies in her career. The senior property representative at the Port Authority of New York and New Jersey is responsible for negotiating leasing terms with aviation partners. She previously worked for a major international airline negotiating high dollar value global contracts.

"The aviation technology space is a fascinating contradiction," she said. "On one hand, many agencies and companies rely on legacy IT systems that have been around for dozens of years to run their operations, but at the same time, the very same agencies and companies are developing cutting-edge technology for their customers."

She added, "Ultimately, innovation and keeping up with external innovation coming from major technology companies is going to continue to be challenging and be an area where IST grads have the opportunity to provide leadership and influence. Information technology is advancing rapidly and in aviation you need to balance a lot of different matters like national security, compatibility with aging infrastructure, and customer adoption before implementing anything."

> **"INNOVATION AND KEEPING UP WITH EXTERNAL INNOVATION IS AN AREA WHERE IST GRADS HAVE THE OPPORTUNITY TO PROVIDE LEADERSHIP AND INFLUENCE"**
> —Carol DeBose '09 '21g

A Data-driven Approach

Paul Valenzano '03 is the director of technology for the Wonderful Agency, a firm that provides creative, strategy, and technology services to brands that are part of the Wonderful portfolio, including FIJI Water, Wonderful Pistachios, and JUSTIN Wines. He is responsible for building and leading a group of technology experts, and for providing technical strategy and business solutions for the agency's partners among the Wonderful brands.

With the brands' success built on traditional forms of advertising like broadcast and product placement, Valenzano's agency has been working to further strengthen those efforts through direct-to-consumer marketing. This opens the door to new forms of data-collection strategies, he said.

"The most interesting challenge we're facing at the moment is adapting to the changes in how third-party data can be collected and utilized. Cutting off much of that data flow means shifting strategy toward first- and even zero-party data, which can be a challenge for consumer-packaged goods since so little of their sales tend to be in managed channels like direct-to-consumer websites," said Valezano. "I've always had a preference for 'build' as opposed to 'buy,' and ethical data collection is a core tenet that I've built into our team's process—so together we're playing an important role in developing strategy that can eventually make us resilient to changes in the third-party space."

Valenzano developed many of those strategy-building skills at IST, which he credits for making him a versatile leader

"So far, I've found success in finance, advertising, and now consumer-packaged goods," he said. "I'm comfortable and conversant at all levels of the software development process, and it helps me solve problems with the products and

Vladimir Zhupanenko (Top); Kevin Mayer (Opposite)-stock.adobe.com

the people that I work with."

Data also drives innovation for **Josh Stine '14**, manager of pricing strategy for Dynamic Pricing Partners, a pricing, analytics and ticket distribution technology company that serves collegiate and professional sports and the live entertainment industry.

"Sports and entertainment are always changing, especially on the ticketing side," he said. "Every year, new technology and innovation continue to make our industry smarter and more forward-thinking. You have to stay on your toes and continue to drive positive change and solutions or you will get left behind."

Stine leads the firm's pricing team, which serves more than 100 professional and college sports partners to develop, implement and manage pricing strategies. Previously, Stine drew on his IST foundation to co-found Seat Insiders, a business dedicated to simplifying the ticket-buying experience for live events.

"Most of the ticket business is driven highly by technology and data, so my IST skills have set me up for success both as an entrepreneur and a leader in sports and entertainment," he said.

While Stine works to help his partners gain insights, identify trends, and adjust pricing in real-time to align with industry trends and maximize revenue, he said that the most rewarding part of his job is motivated by his status as a sports fan.

"There is nothing I love more than being able to have a small impact on teams that I love and have been a lifelong supporter of to feel like I'm making a difference," he said.

Protecting Data through Innovative Solutions

In the retail industry, more personalized connections with customers require more data, which often brings privacy concerns. As senior manager of enterprise security for Wayfair, one of the world's largest online destinations for the home, **Mike Virginio '11** leads a team that secures the IT infrastructure, systems, and accounts for all global corporate offices, warehouses, retail locations, and call centers.

"One of the major trends in retail and cybersecurity that will evolve over the next five-plus years is data privacy," said Virginio. "The number of breaches every year goes up and there are more laws being passed to protect customer data and privacy. I work closely with the head of our privacy team as well as our risk and compliance team to stay ahead of these trends and implement security practices that scale with the business."

Wayfair and other retailers are working to address privacy concerns, in part, by implementing stronger authentication options for consumers—from password-less authentication for online accounts to in-store customer authentication.

"At my job and in my field, I am motivated by the unique challenges we face to secure a retail business," he said. "I always tell my team that we need to learn every day on the job to be successful because online retail and cybersecurity are so dynamic."

Alexander Comby '19 agrees. But, he said, while privacy specialists work to ensure customer data is secure, those cus-tomers have an important role in keeping their information safe.

"As we tighten security policies amid ongoing growing threats, we need to limit any friction that would prevent an end user from accomplishing a desired action," said Comby, an information security analyst for Lowe's Companies, Inc. "Since end users pose the highest security risks, it's important that they are educated in best practices for security while having a seamless experience."

For example, said Comby, users may reuse the same credentials on different systems or write down their credentials, which poses a risk.

"Reducing friction allows us to not only optimize the experience for end users, but also enables IT support teams to focus on other areas not related to access issues," he said.

Solving consumer problems is a key part of the job for **Mary Ward '16 '19g**, senior digital product manager for iRobot. In her role, she defines and drives the strategy for personalized data-driven features for the iRobot HOME mobile app.

"As a product manager, you have a critical role in any organization," she said. "You are the voice of the customer, and your main responsibility is to make sure you are solving your customer's problems with your solution."

Like numerous other alumni, Ward's IST education helps her analyze technical solutions, provide thoughtful holistic solutions, and build cross-functional relationships that bring people together to address challenges.

"The College of IST truly kickstarted my career," she said.

Today, she views every interaction that a consumer has with iRobot as a data point that can be used to advance the products' solutions and offerings.

"We use machine learning and AI techniques to personalize every experience that our users have with our products," she said. "As these concepts evolve, they

will become more intelligent and more integrated within technology ecosystems and will be how we interact with the digital world moving forward."

Adapting to Online Offerings

The COVID-19 pandemic has affected different companies in different ways. Prior to 2020, IKEA relied mostly on shoppers in its brick-and-mortar stores. But when stores were forced to temporarily close or limit the number of in-store shoppers, the company needed to quickly develop an improved online presence, so it established a U.S. digital team to create an online shopping experience.

Samantha Heavner '19 serves as a data privacy specialist on that team, overseeing all U.S. physical and online stores; managing the flow of information; and implementing data privacy and information security standards. A key part of her job is closely following all the new emerging data privacy laws in the nation.

"When I first started my career, the California Consumer Privacy Act was the first major privacy law in the U.S. Now, [several] states have laws," Heavner said. "My job is to stay up to date on these laws and have a robust understanding of what IKEA must do to stay compliant."

Nick Leghorn '10, director of application security for The New York Times, has also been involved in a rapid shift to an increased online presence. The Times' emphasis on creating robust digital experiences has enabled more people to read articles and developed new ways to keep readers informed and engaged, he said.

"From projects like the interactive COVID-19 tracker to real-time election results, there are more ways to not only provide high-quality journalism but also ensure that the experience can be tailored to the reader's specific needs," said Leg-

horn, whose team builds secure systems and applications for the company.

One of the biggest trends he's seen in his career has been the move from monolithic applications with fixed release schedules to a more agile microservices approach that breaks down complex systems into more manageable chunks. The Times' ability to rapidly build new functionality has been a critical component of its journalism in recent years—showcased through the quick publication of new interactive features such as a diagram of the 2021 Miami condo collapse and the Wordle Bot coaching tool.

"These features require a stable platform to operate, common connections to frequently-used functions, and the ability to quickly publish and iterate on new ideas," he said. "News happens fast and getting it out to the public in a timely manner is critical. Empowering teams to act quickly and publish amazing content while ensuring the applications are robust and secure enough to maintain the integrity of The Times and its systems is the biggest challenge that my team faces. We have to adapt to a new way of thinking within the information security space."

Building secure applications starts with the development of the software itself. As a software developer and web

programmer for the Internal Revenue Service, **Jermaine Quinton '08** maintains an agency website through which tax professionals can request tax transcripts for their clients.

"Technology trends are geared toward making information easier to access, especially with the pandemic and many people preferring to work from home, go paperless, or access their personal information online," said Quinton. "With the increase in ease of access to our personal information, this has also prompted a lot of government agencies that are keeping up with these trends to have a heavy focus on cybersecurity."

Quinton, whose career experience includes programming and developer roles in both enterprise and government organizations, honed his ability to stay ahead of emerging trends through his IST courses.

"It was really rewarding to work with real-world problems in my 400-level classes," said Quinton. "It felt like it wasn't just a mere academic challenge, but a look into how things work in the industry."

Innovation is something that challenges **Ryan Hartzfeld '12** daily in his role as lead software engineer at Disney Streaming, a business unit of the Walt Disney Company that manages operations of the company's streaming services. There, he contributes to the application's code and supports best practices around

automated testing, monitoring, alerting, and performance.

"Software development is rarely done in isolation; it's a collaborative process involving thoughtful division of work, peer reviews, and lots of communication," said Hartzfeld. "The type of project work applied across a breadth of topics [at IST] positioned me to be a more versatile and effective leader."

Hartzfeld draws on that background as he aims to deliver engaging experiences to audiences.

"I never had specific plans to work in the entertainment industry, but I knew I wanted to build large-scale applications that are touched by millions of consumers," he said. "With the streaming industry growing at such a remarkable pace, working for Disney Streaming seemed like a great chance to jump in and make an immediate impact in the space."

Protecting Patients

For some IST alumni, cyberthreats to their workplace technology could literally be a matter of life and death.

As director of cybersecurity technology protection for the Cleveland Clinic, **Keith Duemling '16 '18g**, oversees all cybersecurity protection platforms for the clinic's facilities throughout North America and Europe.

Each day, he focuses on three key technology challenges: protecting patient privacy as more services and offerings become available online; developing and supporting technology to extend the reach of health care systems to underserved communities; and assessing cyber risk to health care platforms.

While these are challenging problems, the Cleveland Clinic's core value of selfless service and the desire to help others motivates Duemling in his role. He also credits his IST education for his ability to develop IT strategy and maintain operational excellence.

"The knowledge I have received is enduring and complements my technical certifications well as I manage a portfolio of complex projects across our health care system," he said. "The opportunity to obtain a well-balanced holistic view of technology and cyber risk challenges allows me to approach challenges from multiple perspectives to allow my teams to focus on what matters more quickly."

And what is it that matters most in the health care industry? Patient safety, according to **Zack Gable '10**, who oversees all cybersecurity operations as director of information security at Geisinger Health System.

"One of the things I think about constantly, and I reiterate to my team is: what we do each and every day has direct impact on caregivers and providers that are ultimately taking care of lives," said Gable.

That responsibility is one that Gable takes personally. His wife is a health care provider, and his son spent the first four months of his life in the NICU. He knows the importance of building secure technology that will positively impact patients.

"From a cyber perspective, in health care—especially on the clinical side—you have the ability to support the business, which in turn means you're supporting caregivers and providers, enabling them to have direct access to the applications they need to perform he best patient care possible," he said. "Nobody wants to be in a clinic or hospital or in need of medical attention, but if you ever are in that situation, you don't want to be wondering if the technology will ensure you get the best possible care. My job is to make sure that security is baked in and seamless."
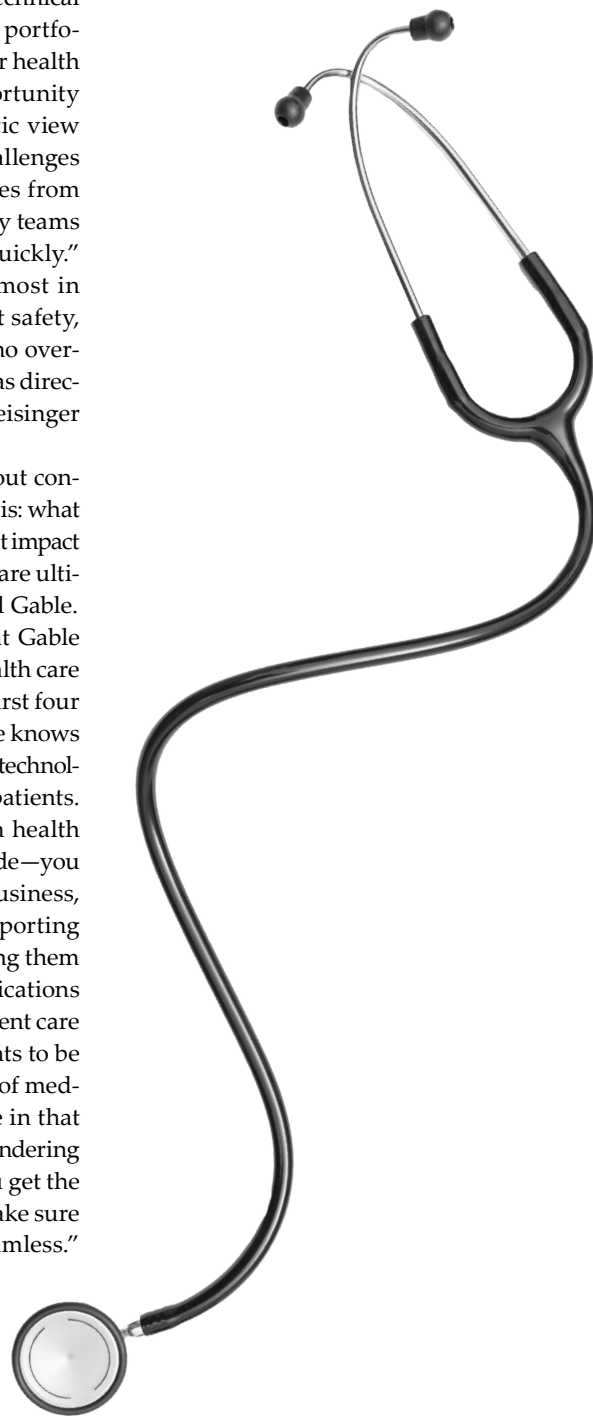
SPRINGING FORWARD

Through the ebbs and flows of the pandemic over the last two years (and counting), we've all shifted, pivoted, and adjusted to the changing world. But this spring, there were glimpses of normalcy across campus. We captured a few of our favorite moments from the semester that show IST at its best: a vibrant community of learning, discovery, and celebration.

INSIGHT AND INNOVATION

IST alumni like (1) **Korey Wallace '09** shared expertise with students during *IST ConnectX.*

At *Penn State Startup Week powered by PNC Bank,* (2) student teams pitched their innovative digital solutions in the *Bardusch Family Ideamakers Challenge* and heard from speakers like (3) **Jayme Goldberg '92 Bus** and (4) **Luke Simonetti '07**.

In March, (5) **Noel Claudio '14** became the third IST alum to be honored with the Penn State Alumni Association's Alumni Achievement Award (p. 31).

READY TO ENGAGE

Students put their best foot forward as they (6, 7, 8) connected with corporate recruiters during the first-ever *Technology & Business Career Fair*, which was presented in partnership with the Smeal College of Business.

In the classroom, students showcased their skills in a virtual capture-the-flag game during the (9) *Cyber Wi-Fighter Hacking Challenge* hosted by the Pennsylvania National Guard's Army cyber team (p. 8).

Student organizations like the (10) Women, International, Racial, Ethnic Diversity Intercultural Network, and (11) Women in IST recruited new members during the *IST Involvement Fair*.
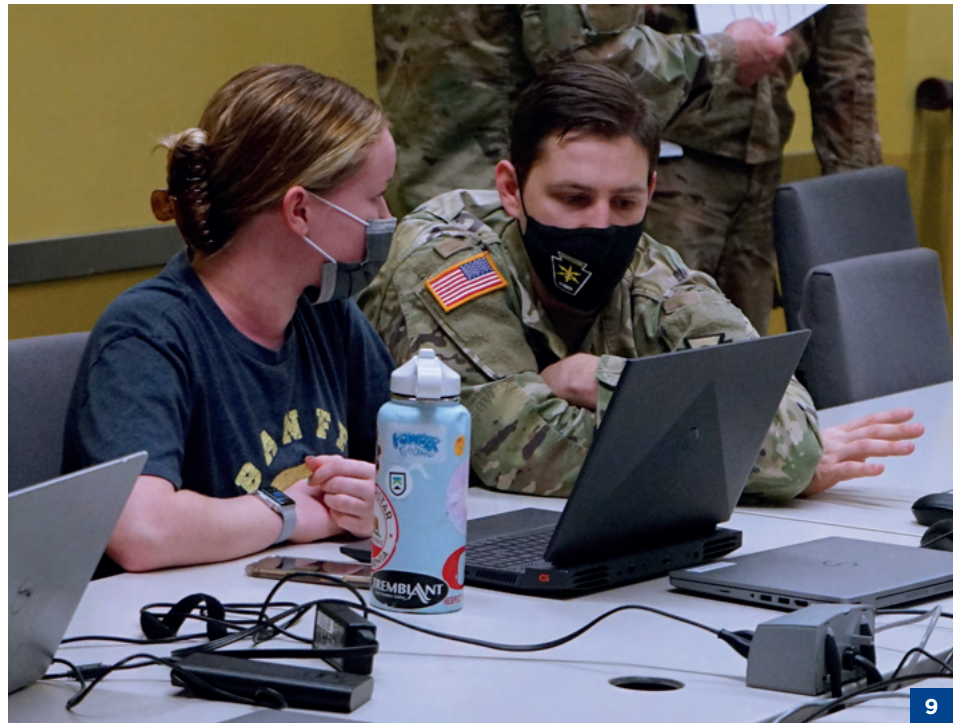
DREAMING BIG

Students visited (12) The Dreamery to get hands-on experience with how emerging technology can positively impact teaching and learning. The activity was part of the course *Conversations with Interactive Media*, which was taught by two IST students as part of the University's Students Teaching Students program (p.14).

MAKING CONNECTIONS

Newly admitted women to the college connected with their future classmates during the annual *Women in Tech Celebration*. The event included (13) a workshop at Happy Valley LaunchBox powered by PNC Bank and (14) a panel discussion with current students and IST alumnae **Maria Cody '14** and **Diana Long '04**.

Students networked, got advice from corporate partners, and explored their personal stories during the first-ever (15) *Be You in Tech Summit*, hosted in partnership with RSM US LLP (p. 6).

FOR THE GLORY

Members of the class of 2022 celebrated their final days as students during the (16) *Senior Celebration* in late April with friends, photos, and alumni swag.

After a two-year wait, alumni from the Class of 2020 (17-19) got their much anticipated on-campus commencement. Through a celebration at Westgate Building, alumni honored their accomplishments with family, food, and fun. In early May, the newest IST alumni from the class of 2022 celebrated earning their degrees outside (20) Beaver Stadium and in (21) the Westgate Building's Cybertorium.

Zack Canimore (20); Levi Walk(21)

A Greater Penn State

IST celebrates record-breaking six-year fundraising campaign

On April 22, Penn State celebrated the success of its most recent fundraising campaign, "A Greater Penn State for 21st Century Excellence." Launched in 2016, the campaign aimed to elevate the University's standing by fulfilling three core imperatives: keeping the doors to higher education open to hardworking students regardless of financial well-being; creating transformative experiences that go beyond the classroom; and impacting the world by serving communities and fueling discovery, innovation, and entrepreneurship.

More than 684,000 donors made gifts during the campaign, which officially ended on June 30, helping the University surpass its goal of $2.1 billion. And thanks to the generosity of alumni and friends, the College of IST is stronger and more accessible than ever.

"Because of you, more students have access to a highly regarded IST education and to opportunities and experiences that uniquely position them for long-term success in the industry," said Andrew Sears, dean of IST. "Your impact is demonstrated through the success of our students and graduates as they showcase the strength of an IST degree in an interdisciplinary global technology-enabled workforce."

Joe Atkinson '92 Bus, campaign chair for the College of IST, encouraged alumni and friends of the college to build on the momentum of A Greater Penn State to further expand the campaign's impact for the IST community.

"Because of campaign support to date, 35 new scholarships and initiatives have been established at IST—providing more opportunities for students to access and complete their education and to enrich the academic experience as they prepare for their future careers," said Atkinson. "If you've been considering giving back to IST, now is the time to join the generous benefactors who are making a significant impact for the IST students who will become the innovative leaders of tomorrow."

This fall, the college will host a celebration to honor the lifetime donors who supported the college during the campaign and to highlight the impact their generosity has made.

"On behalf of our entire college community, I extend a sincere and heartfelt thank you to our alumni and friends who have supported IST during the last six years," said Sears. "I look forward to celebrating them and the many achievements they've helped make possible."

Show your support: visit ist.psu.edu/give or contact Mike Weyandt, IST's director of development, at mjw134@psu.edu.

$20M+
contributed to IST initiatives

783
donors who supported IST students and programs

36
new IST scholarships created

$2.90M
contributed for IST undergraduate scholarships

$860,000
provided for IST's Open Doors and Educational Equity scholarships

Manning Photography (Top); Photo provided (Bottom)

The 'We Are' Spirit of Giving

New scholarship from Elizabeth King will help IST students access necessary tech

Scholarships helped **Elizabeth King '79 Lib** attend Penn State. Through decades of service and giving, the political science alumna is paying that opportunity forward for IST students.

King recently established a technology scholarship at the college in honor of her parents, which provides aid to IST students with financial need so they can secure the technology needed to complete their degrees.

A longtime donor to IST and several areas at the University—including the Penn State softball team and the colleges of the Liberal Arts and Health and Human Development—she has committed herself to removing financial barriers for students through scholarships.

She recognizes how scholarships helped her pursue a successful career by removing those barriers, while also motivating her to do her best.

"It gives you a sense that somebody believes in you and somebody is pulling for you," she said. "I think about those points in college that were really fundamentally life-changing, and how having those scholarships was really important to us. And because it was so impactful to me, I want to be part of that impact for other students going forward."

King's 20-year career with Starbucks Corporation—where she retired in 2016

as vice president of human resources solutions and services—gave her a firsthand look at how quickly technology and companies evolve. Now, she leads her own HR management and shared services consulting company to share her expertise with others, including Penn State students.

A frequent guest speaker and participant on leadership panels, she also recently completed five years of service on the IST Dean's Advisory Board, where she focused, in part, on enrolling more women on the board and in the college.

"I believe more women in science and technology majors is the way we get more diversity of thought into our profession," said King. "I've learned through my Starbucks career that the more diverse an organization is, the more the bar rises for everyone. For me, getting more women on the board gets more diversity of thought and represents what we want the college [and the industry] to look like."

Connecting with students and witnessing their successes have been the most rewarding part of her philanthropy and mentorship.

"Whatever donation you're going to make of either time or money, you're going to get back 100 times over," she said. "It's quite selfish, honestly. You think about donors as being generous, but the real generosity is getting to have some sort of relationship back from the students."

She added, "We are Penn State. To truly be part of that, we need to take care of those that need some help."

Building Bonds

Existing networks were strengthened and new relationships were made for these five alumnae at the IST Alumni Networking Social held in Manayunk on May 19. **Cassidy DiPaola '21, Paige Lorimer '21, Alair Moody-Daniels '20, Rachel Schuchman '20, and Emma Burd '20** all work for PwC in Philadelphia. While some of the alumnae already knew each other (Alair supported Cassidy in getting an internship with the firm last year), others met and learned about their shared connection for the first time at the IST event.

Support and Redemption

When **James Reese** earns his degree in cybersecurity analytics and operations in August, it will be with the support of members of the IST community who believed in him.

An individual with autism, Reese faced unique challenges in high school which led him to drop out after 10th grade. But the native central Pennsylvanian, who has followed Penn State his entire life, had his sights set on attending the University and being the first in his family to attend college.

That dream came true thanks to Reese's drive to earn a GED and multiple scholarships in the College of IST—including the Pillion Scholarship; the Frymoyer Honors Scholarship; the Copeland Family Scholarship; and the Gary and Anny Cesnik Scholarship. While the scholarship benefactors' financial generosity made it possible for Reese to attend Penn State, the esteem support they unknowingly provided was equally critical to Reese—who until then had viewed his status as a high school dropout as a mark of failure.

"Throughout my time at Penn State I really struggled with a lot of confidence issues; I didn't believe in myself,"
said Reese. "So knowing that there were people out there that believed in me, that really made a difference. The [scholarship donors] believed in me

when I couldn't and that enabled me to finally believe in myself."

That support followed Reese throughout his program, helping him to strengthen his network and academic achievements. He is currently completing a network engineering internship with his dream company, Cisco Systems, in Research Triangle Park near
Raleigh, NC. He will graduate summa cum laude and continue working with Cisco after commencement.

"Attending Penn State helped me to redeem myself in my eyes," said Reese. "I proved to myself that I can finish something; I can achieve it if I set my mind to it. And knowing that I have a sense of fulfillment because for the longest time the fact that I dropped out of school weighed on me. Graduating from Penn State gives me a sense of fulfillment and completion."

As he embarks on his career, Reese aspires to one day pay the support he received forward to help future Penn State students.

"There are so many talented, bright young minds out there that might not be able to blossom into their full selves without support," he said. "Just seeing what I could achieve with the support I received makes me know that there are a lot of other people out there in the same position that could do just as much if not more [if they had similar support]. It's important to give back and help give people who have the skills and ambition a solid way to get from point A to point B."

They Said It...

Class of 2022: What was your best IST experience?

Trevor Jean Baptiste
"Being involved with WIRED IN. The student organization took me in as if I were family and provided me with resources to be successful."

Zoe Evans
"Being an IST Diplomat. I loved to be able to meet with prospective students and tell them about my Penn State experience."

Andrew Pacheco
"Going on IST's alternative spring break in Austin. I visited several tech companies and networked with other first-year students."

Photo provided (Top)

Inspiring Students through Success

Noel Claudio '18 has plenty of expertise. And during a visit to campus to be presented with a 2022 Alumni Achievement Award by the Penn State Alumni Association, he was eager to share that expertise with students.

Claudio was one of 11 prominent young Penn State alumni to receive this year's award, which is presented to University graduates who have achieved exceptional success at an early age. A strategy and operations analyst at Twitter, Claudio has been an effective advocate for Latino workers in technology. He regularly organizes events to bring awareness to careers in consulting and technology, and mentors underrepresented students who aspire to work in the industry.

Before the awards ceremony, Claudio discussed career preparation tips over lunch with IST students; participated in a Q&A session with first-year students in an introduction to application programming class; and toured the Westgate Building with IST Diplomats.

Motivated by the University recognition, Claudio hopes to inspire Penn State students—especially those from underrepresented backgrounds—to follow in his footsteps and help narrow the diversity gap in the tech industry.

"I realized that I have a voice in this platform—as an immigrant, an underrepresented minority, and a first-generation college student working for one of the top companies in the world," he said.

In the Name of Inclusion

There were 400,372 bricks used in the construction of the Westgate Building, but a few of them hold special significance. IST's first graduates, who earned their degrees in 2003, have their names etched into bricks on Westgate's bridge to recognize them as part of the college's foundation.

Despite being set in stone, however, the college made a meaningful change to one brick earlier this year at the request of **Lauren Boland '03,** a transgender woman whose birth name was on a brick.

"For any trans person that has chosen their own name, their given name is often referred to as their 'dead name,'" said Boland. "Hearing this name on the phone or in person, or seeing it on records, can bring up a lot of tough feelings. I thought for sure that my dead name would be forever etched in the side of the building."

She reached out to the college and in April—on the four-year anniversary of Boland taking her first steps toward transition, of all days—she received an email from IST dean Andrew Sears

with a picture of her updated brick.

"I'm insanely proud of Penn State and myself for making this happen," said Boland. "It means more to me than you might ever know."

PennState
College of Information
Sciences and Technology

» Update your contact information at **ist.psu.edu/update-info**

IN THIS ISSUE:
Supporting Black Moms • Better Baseball Stats •
Ballet Startup • Diverse Industries for IST Alumni

IST ALUMNI AND FRIENDS TAILGATE

Penn State vs. Ohio
September 10, 2022
9-11:30 a.m.
Register at **ist.psu.edu/tailgate2022**

Stay tuned for more information on this and all upcoming events—including networking socials in NYC and Pittsburgh—at **ist.psu.edu/alumni** and on the IST Alumni Society Facebook page (**@istalum**).

alumni@ist.psu.edu   @ISTatPENNSTATE