



IMPACT REPORT

2025-2026



WITH GRATITUDE: ADVANCING ISYE TOGETHER

We are sincerely grateful for your ongoing support and are pleased to share this Impact Report highlighting a few of the many great things happening in the H. Milton Stewart School of Industrial and Systems Engineering (ISyE), which are made possible through the investment and commitment of our alumni, friends, and community.

One of our priorities over the past academic cycle has been to establish our collaborative senior leadership team to strategically advance ISyE’s vision and impact. The leadership team includes: Alan Erera, Senior Associate Chair; Christos Alexopoulos, Associate Chair for Graduate Studies; Jing Li, Associate Chair for Faculty Development and Research; Dima Nazzal, Associate Chair for Academic Administration; Kamran Paynabar, Associate Chair for Innovation, Leadership, and Entrepreneurship; and Chen Zhou, Associate Chair for Undergraduate Studies. Our senior leadership team’s expertise strengthens ISyE’s alignment across our academic, research, and strategic priorities.

ISyE is preparing to move into the George Tower, a major milestone that will enhance the Stewart School’s visibility and expand its outreach. Our new home will serve as a hub for innovation, collaboration, interdisciplinary research, and stronger engagement with industry and alumni. Our faculty, staff, and students are actively participating in this transition to ensure we fully leverage the opportunity to expand partnerships and amplify ISyE’s impact on campus and beyond.

We continuously reinvent and expand our academic offerings to prepare our students for evolving industry needs. In Fall 2026, ISyE will launch a new minor in Health Systems, designed to equip students with the analytical and systems-based skills needed to design and improve healthcare delivery and public health systems. This is an exciting time for ISyE as we continue to provide leadership, education, and research in such an important area.

Thank you for your continued support of our students and programs, which expands our impact in meaningful ways. Together, we are advancing ideas and research that shape smarter, more resilient systems for the future.

Pinar Keskinocak, Ph.D.
H. Milton and Carolyn J. Stewart School Chair

Top-Ranked Programs

UNDERGRADUATE

No. 1 Industrial and Systems Engineering Undergraduate Program

25 YEARS



U.S. News & World Report

GRADUATE

No. 1 Industrial and Systems Engineering Graduate Program

36 YEARS

Students Enrolled



Fall 2025
Students
Enrolled

1,387

Undergraduate Students

326

Master’s Students (In-Person)

6,858

Master’s Students (Online)

215

Doctoral Students



Faculty and Staff

80

Academic Faculty

24

Research Faculty

55

Staff

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At this remarkable moment in time, the complex challenges facing society call for the systems thinking and analytical approaches that define our discipline, and ISyE and our field are poised to make truly transformative contributions.

Pinar Keskinocak, Ph.D,
H. Milton and Carolyn J. Stewart School Chair

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THE IMPACT OF YOUR GIVING

Your philanthropy fuels groundbreaking research, enhances student success, and strengthens ISyE's ability to prepare the leaders of tomorrow.

UNDERGRADUATE STUDENTS IMPROVE CAMPUS THROUGH SENIOR DESIGN PROJECTS

Thirty-two senior design teams from the H. Milton Stewart School of Industrial and Systems Engineering—the largest cohort in a single semester—presented their capstone projects at the Capstone Design Expo on April 28. These projects mark the culmination of students' undergraduate experience and their transition into the next phase of their careers.

While most teams collaborated with external partners generating more than \$50 million in cost savings, four teams turned their focus inward, applying data-driven design and analysis to strengthen operations across Georgia Tech's campus.

Advising Designed with Students in Mind: Team “Lean on Me” partnered with Academic Success & Advising to make student advising more proactive and accessible. Using data from Navigate360, the team built forecasting, simulation, and optimization tools to better align advising availability with student demand, and created an AI chatbot to handle routine inquiries, freeing advisors to focus on more personalized high-value support. Their approach is projected to double student engagement in advising, from 4.3% to 8.6%, while increasing advisor workload by only 3.2%.

Engineering a Better Game Day Experience: Team “Linebackers” collaborated with the Georgia Tech Athletic Association to enhance operations at Bobby Dodd Stadium. Analyzing ticket-scanning and concession purchase data, the team identified critical bottlenecks in stadium entry and restocking. Their recommendations are projected to cut peak entry wait times from 19 to 9 minutes and reduce concession stockouts by 94%, meaningfully

improving the fan experience.

Optimizing the Invention Studio: Team “CTRL-P” partnered with the Flowers Invention Studio to improve the 3D printing experience for students while preserving the studio's culture of hands-on learning. Using simulation and integer programming, the team standardized processes, redesigned the queue system, and optimized volunteer staffing schedules. Their recommendations are projected to reduce average user wait times by 43.2% and 90th-percentile wait times by 15.6%, delivering a faster, more consistent experience for the thousands of students who use the studio each semester.

First-Year Registration, Reimagined | Named Best of ISyE Senior Design Winner, Team “FASET Your SEATbelts” worked with the GT Registrar's Office and GT Strategic Consulting to improve how course seats are allocated across FASET orientation sessions. Their demand model built from detailed registration, scheduling, and AP credit data, enabled dynamic seat release and smarter session planning. In simulation, the share of students unable to register for a full course load dropped from 33% to 7%, and the outcome gap across sessions narrowed by 36 percentage points, creating a more equitable experience regardless of when a student's session falls.

Together, these projects show what ISyE students can accomplish when they turn their analytical toolkit on the institution they know best: delivering solutions with real impact for students, staff, and fans across campus.





This is both an exciting and challenging time for ISyE and our field as we navigate rapid technological changes and evolving societal and business needs. ISyE has long been recognized as the nation’s top-ranked program in industrial and systems engineering at the undergraduate and graduate levels, a testament to the exceptional quality of our education, research, and community.

**Pinar Keskinocak, Ph.D,
H. Milton and Carolyn J. Stewart School Chair**



**BRINGING INNOVATION TO LIFE:
THE ADC XR MAKERSPACE OPENS AT ISYE**

Curious students, faculty, and staff gathered on January 23 to celebrate the opening of the Allen-Davidson-Coleman (ADC) XR Makerspace, a new interdisciplinary hub advancing immersive technologies in research, education, and human-centered engineering. Designed to expand access to extended reality (XR)—including augmented, mixed, and virtual reality—the Makerspace provides cutting-edge tools such as Apple and Meta headsets, augmented reality glasses, haptic gloves, motion-tracking systems, and 3D printers.

Led by ISyE PhD student “XR Captain” Steven Yoo and a team of graduate student leaders, the space emphasizes applying ISyE’s strengths in optimization and analytics to real-world, human-centered challenges. At the opening showcase, PhD students demonstrated projects spanning robotics, healthcare, and training applications, inviting attendees to experience immersive environments firsthand. Notable demonstrations included a mixed-reality radiation detection training tool and motion-tracking technology that enables more efficient humanoid robot control.

Supported by faculty leadership, including Director Mohsen Moghaddam, Gary C. Butler Chair, and Strategic Advisor Alan Erera, Manhattan Associates/Dabbieri Chair, the ADC XR Makerspace fosters collaboration, creativity, and interdisciplinary exploration. Open to the entire ISyE community, it serves as a platform for translating theory into practice and reinforces Georgia Tech’s leadership in emerging XR research and innovation.



**ISYE HOSTS HEALTH SYSTEMS LEADERS TO
ADVANCE RESEARCH, EDUCATION, AND PRACTICE**

In early 2026, Georgia Tech’s **Center for Health and Humanitarian Systems (CHHS)** and ISyE hosted Health Systems Day: The Next Generation Forum, bringing together faculty, students, and regional leaders.

Stewart School Chair Pinar Keskinocak opened with a call to shift from reactive “sick care” to proactive health and wellbeing, engaging communities, prioritizing prevention, and addressing the social determinants shaping health outcomes. Faculty lightning talks showcased the interdisciplinary research breadth with the goal of improving health outcomes. These talks included: maternal care access, healthcare cost transparency, neighborhood environments and mental health, disease modeling to improve interventions and infrastructure resilience — alongside growing applications of AI and machine learning in health systems.

The industry panel featured leaders from Wellstar, Piedmont Healthcare, Public Health Informatics Institute, and the Atlanta Regional Collaborative for Health Improvement. Discussions centered on performance drivers, AI’s practical impact, workforce skill gaps, and challenges like incentive misalignment. A clear takeaway emerged: Health systems must reach beyond clinical walls to engage communities and align incentives to promote health and wellbeing.

The event also celebrated student work, with poster awards going to Jingyu Li, Hailey Toepfner, and Yang Yang, George Family Foundation Fellow, and announced a Health Systems minor—underscoring ISyE’s continued leadership in and commitment to advancing health systems innovation and education.



The Future of AI-Powered Manufacturing

Manufacturing is at an inflection point. Across industries, companies are grappling with rapid digital transformation, the integration of artificial intelligence (AI), and the urgent need for resilient, sustainable systems. Industrial and systems engineering — with its deep roots in process and quality improvement and advanced analytics — is stepping into this moment to drive innovation in manufacturing ecosystems.

“It’s a pivotal time for collaboration,” said Pinar Keskinocak, H. Milton and Carolyn J. Stewart School Chair and professor in the H. Milton Stewart School of Industrial and Systems Engineering (ISyE). “We are uniquely positioned to connect foundational engineering principles with emerging AI technologies — helping shape the future of smart, efficient, resilient, and sustainable manufacturing systems.”

ISyE is launching its **Manufacturing and AI Initiative** to unite pioneering researchers with interdisciplinary partners in the development of research and education programs that address issues of industrial, societal, and global concern. The initiative focuses on the following key enabling technologies that are transforming modern industrial systems:

- **AI-enabled manufacturing process optimization**
- **Integrated asset management and security**
- **Human-centered manufacturing**

Together, these areas position ISyE at the forefront of shaping AI-powered manufacturing. And while these opportunities have the potential to create more innovative products,

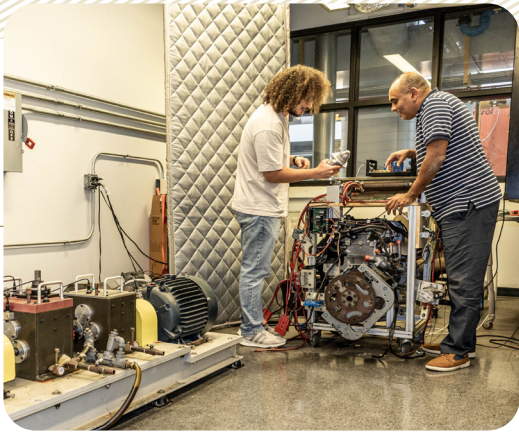
reduce costs, accelerate productivity, and increase sustainability, researchers are also addressing the potential challenges.

“Because data science is at the center of manufacturing and AI, we need to contextualize the immense amount of data to effectively enable AI,” shared Kamran Paynabar, associate chair for innovation, leadership, and entrepreneurship and Fouts Family Chair and professor in ISyE. “Some of the greatest challenges of modern manufacturing systems are to make sense of vast amounts of data and ensure efficient operations.”

Through your support, ISyE is able to lead at this critical moment—transforming innovative ideas into real-world solutions that will define the next generation of manufacturing.

ISyE’s Manufacturing and AI Initiative

KEY ENABLING TECHNOLOGIES



Edge and Federated Computing

Developing Methodologies for Distributed Plants to Operate More Efficiently

ISyE’s Georgia Power Early Career Professor Nagi Gebraeel and his Predictive Analytics and Intelligence Systems (PAIS) team are using AI to improve operational efficiency and performance of distributed, multi-site manufacturing plants. The PAIS team is exploring how Internet of Things (IoT) interconnectivity and decentralized data analytics can drive real-time decision-making and adaptive control by enabling collaborative intelligence across sites — without costly centralized data aggregation. In collaboration with Novelis and supported by the NSF, the team developed novel methods for uncovering causal relationships between geographically distributed machines and processes without the need to share raw data. “By uncovering latent causal structures through this novel federated mechanism, our approach enables distributed plants to coordinate more effectively, anticipate downstream disruptions, and implement system-wide optimizations,” said Gebraeel. “Knowing ‘what drives what’ provides an auditable causal map that production engineers can inspect, validate, and act upon.”

“We are excited about this direction because it opens new avenues for intelligent coordination in complex manufacturing networks.”

— NAGI GEBRAEEL,
GEORGIA POWER PROFESSOR, ISyE

ISyE’s strength is its people. Our community drives the Stewart School’s impact through research, teaching, and collaboration. Watch our new Stewart School video to see where we’re headed next.



Thank you for your support of ISyE and for being a partner in our success. Please contact development@isye.gatech.edu for additional opportunities.