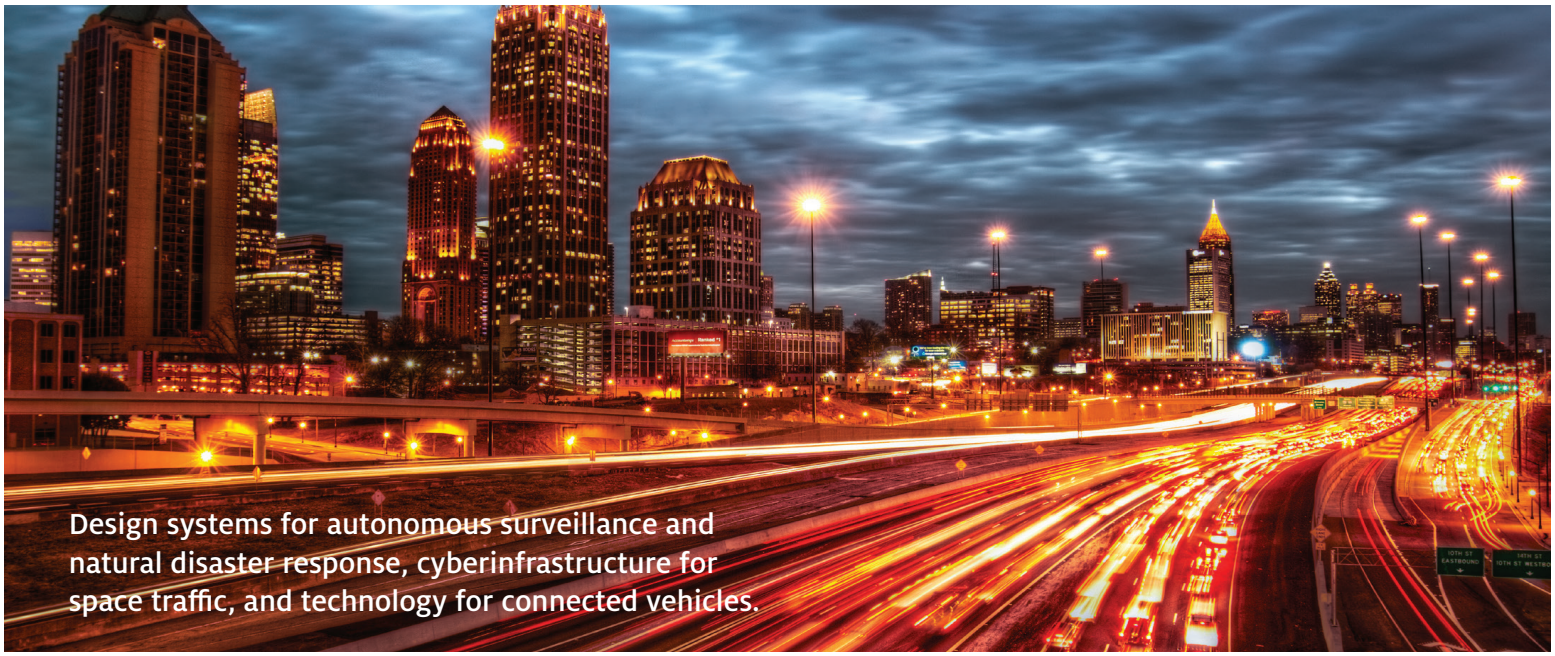
COLLEGE OF ENGINEERING
Systems & Industrial Engineering

GRADUATE STUDIES

Getting parts and people to work well together



Research Focus Areas

- Data analytics, informatics & machine learning
- Energy, water, environment & sustainability
- Health care systems
- Human factors & sociotechnical systems
- Optimization
- Smart transportation & manufacturing logistics
- Space, defense & security

Program Highlights

- Highly ranked programs
- 10 distinct graduate tracks
- Online MS and graduate certificates
- Flexible interdisciplinary curriculum
- High-profile research and valuable internships
- Hispanic-serving Institution

Degrees

- PhD Systems & Industrial Engineering
- PhD Software Engineering
- MS Engineering Management *(online options)*
- MS Industrial Engineering *(online options)*
- MS Systems Engineering *(online options)*
- MS Software Engineering *(online options)*

Certificates *(online options)*

- Engineering Management
- Quality & Reliability Engineering
- Systems Engineering

Top 25

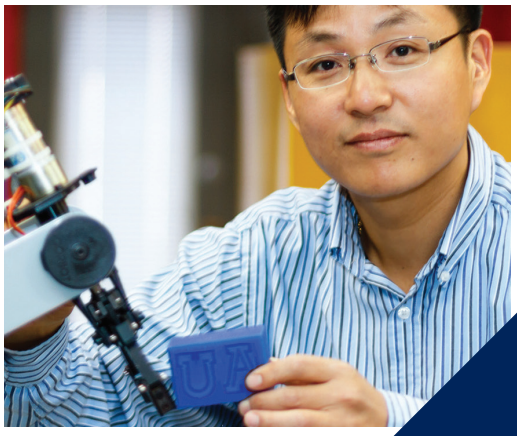
Industrial/systems/manufacturing grad programs
(U.S. News & World Report 2022)

Nation's First

Academic systems engineering program

"The opportunity to work on a NASA-funded mission while obtaining a graduate degree seemed too good to be true. I am part of a mission that will directly enhance our knowledge of the solar system – all while still being in school."

- Kristofer Drozd, PhD student



Funding options throughout degree lifecycle, including:

- Four-year SIE scholarship
- Research/teaching assistantships
- Fellowship awards

Application Deadlines

MS & Graduate Certificate
Fall: January 15 | Spring: June 1

Doctoral Program
Fall: December 1

Contacts

Systems & Industrial Engineering and Engineering Management Graduate Programs
Cindy Nguyen, *SIE Graduate Coordinator, Sr.*
graduateadvisor@sie.arizona.edu

Software Engineering Graduate Programs
Liza Soto, *Software Engineering Graduate Coordinator, Sr.*
sfe-grad@engr.arizona.edu

sie.engineering.arizona.edu

COLLEGE OF ENGINEERING
Systems & Industrial Engineering

"With industrial engineering, the beauty is that you can expand to almost all engineering areas, and it encourages collaboration. It can be applied to a variety of other disciplines."

- Hongyue Jin, assistant professor

Faculty Expertise

Hannah Budinoff – hdb@arizona.edu
design for manufacturing, additive manufacturing, engineering design and design methodology, engineering education, sustainable manufacturing

Tomas Cerny – tcerny@arizona.edu
software architecture, cloud native systems, code analysis, software design, technical debt, system evolution

Jianqiang Cheng – jqcheng@arizona.edu
stochastic programming • robust and distributionally robust optimization • semidefinite and copositive optimization • network design and energy management

Neng Fan – nfan@arizona.edu
integer programming and combinatorial optimization • stochastic programming and robust optimization • energy and water systems modeling and optimization • data mining and health care management

Roberto Furfaro – robertof@arizona.edu
intelligent systems for space exploration • space systems engineering • guidance navigation and control of space systems • radiative transfer numerical modeling • inverse problems in remote sensing

Erfan Yazdandoost Hamedani – erfany@arizona.edu
Large-scale optimization, distributed optimization, bilevel optimization, saddle point problems, machine learning, dynamical systems

Sen He – senhe@arizona.edu
cloud computing, Edge, software and performance engineering, applied artificial intelligence, computer vision

Larry Head – klhead@arizona.edu
traffic signal systems • urban traffic operations • transportation modeling • connected vehicles • autonomous vehicles • intelligent transportation systems

Afrooz Jalilzadeh – afrooz@arizona.edu
stochastic optimization, variational inequalities and Nash games, risk averse optimization, machine learning, healthcare optimization

Hongyue Jin – hjin@arizona.edu
techno-economic analysis • life cycle assessment • optimization for sustainability

Sherilyn Keaton – keatons@arizona.edu
software engineering • object-oriented modeling

Pavlo Krokhmal – krokhmal@arizona.edu
stochastic optimization • decision making under uncertainty • risk analysis • financial engineering • optimal trading strategies • multidisciplinary optimization • cooperative control and decision making

Michael Kwinn – kwinnm@arizona.edu
Systems thinking, systems decision making, decision analysis, systems design, resource management, planning

Wei Hua Lin – whlin@arizona.edu
traffic flow modeling • information technologies in transportation • transportation data analysis • transportation network, analysis and modeling • freeway incident management

Jian Liu – jianliu@arizona.edu
multivariate statistics • statistical process control • quality and reliability engineering • statistical pattern recognition and feature extraction for process monitoring, diagnosis and control

Alejandro Salado – alejandrosalado@arizona.edu
problem definition, model-based systems engineering, art of systems engineering, theory of systems engineering, design of verification strategies, systems engineering education, decision analysis

Pratik Satam – pratiksatam@arizona.edu
internet of things, smart manufacturing, and software security

Mohammed Shafae – shafae1@arizona.edu
cyberphysical systems security • smart manufacturing systems • statistical process monitoring • manufacturing process data analytics • advanced metrology systems • data-driven quality control

Vignesh Subbian – vsubbian@arizona.edu
medical informatics • health care systems engineering • computing applications for critical care medicine • traumatic brain injury • STEM integration • engineering ethics

Ricardo Valerdi – rvalerdi@arizona.edu
cost modeling • software cost estimation • harmonization of systems and software engineering • acquisition policy • process improvement methods • human systems integration • professionalization of systems engineering

Yue Wang – ywang23@arizona.edu
Inventory management, transportation and logistics, supply chain optimization