Eric G. Stratman

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ACADEMIC PROFILE

Research Statement: I study operations research methods that combine optimal resource allocation strategies, personalization techniques, and machine learning to improve human-centered systems. My work focuses on leveraging insights to tailor services to individual needs while ensuring efficient use of resources.

Teaching Philosophy: As an educator, I aim to equip and empower students of diverse backgrounds for careers that align with their personal goals. My philosophy is to teach students to be problem solvers, encourage holistic growth, and foster enthusiasm through real-world scenarios.

EDUCATION

Ph.D. in Industrial Engineering Aug 2020 – Present
University of Wisconsin-Madison

- **Thesis:** Personalized Resource Allocation in Service Systems
- **Research Advisors:** Laura Albert, Justin J. Boutilier
- **Ph.D. Minor:** Machine Learning

M.S. in Industrial Engineering May 2022
University of Wisconsin-Madison

B.S. in Industrial Engineering, *Summa Cum Laude* Dec 2018
University of Pittsburgh

ACCEPTED/PEER-REVIEWED PUBLICATIONS

E.G. Stratman, J.J. Boutilier, L.A. Albert, "Uncertainty in Facility Location Models for Emergency Medical Services," In: Eiselt, H.A., Marianov, V. (eds) Uncertainty in Facility Location Problems. International Series in Operations Research & Management Science.

E.G. Stratman, J.J. Boutilier, L.A. Albert, "Patient Assessment and Response Dynamics in Emergency Medical Service Systems," In: Proceedings of the IISE Annual Conference & Expo 2022.

WORKING PAPERS

E.G. Stratman, L.A. Albert, J.J. Boutilier, "Decision-Aware Predictive Model Selection for Workforce Allocation*."*

E.G. Stratman, J.J. Boutilier, L.A. Albert, "Ambulance Allocation for Patient-Centered Care."

Z. Zhou, **E.G. Stratman**, J.J. Boutilier, C. Michini, "A Machine Learning Approach to Ambulance Allocation."

TEACHING EXPERIENCE

Instructor, Simulation and Probabilistic Modeling Spring 2024

- Redesigned course content to align with teaching philosophy, incorporating active-learning techniques and real-world case studies that enhanced student engagement.
- Created exams, lecture slides, assignments, and project components.
- Managed a teaching team of a teaching assistant (TA) and a grader.

Teaching Assistant, Industrial Engineering Design Fall 2024

- Mentored student project teams through a semester-long design project, providing support on project planning, execution, and technical problem-solving.
- Facilitated the development of practical engineering skills by overseeing project progress, offering constructive feedback, and ensuring alignment with course objectives.

Teaching Assistant, Introduction to Operations Research Spring 2023

- Designed and led weekly discussion sections, incorporating case studies to illustrate concepts and enhance student understanding.
- Administered office hours and grading. Managed online question platform.

Teaching Assistant, Introduction to Optimization Summer 2022

- Administered office hours and grading. Managed online question platform.

CURRICULUM & PEDAGOGY DEVELOPMENT

New Educator Orientation, Graduate Coordinator Jan 2022 – Present

- Collaborated with leaders from the Collaborative for Engineering Education department to develop and overhaul the curriculum for first-time teaching assistants in the Colleges of Engineering and Agriculture. Contributed to a comprehensive redesign of the program, ensuring alignment with educational practices and research.
- Led interactive sessions on best practices in grading and office hours, incorporating active learning techniques to enhance participant engagement and effectiveness.
- Coordinated and trained volunteers to support the revamped educator training program each semester, ensuring high-quality implementation and consistent support for new teaching assistants.

INFORMS Early Career Educatory Network, Aug 2024 – Present

- Applied to and participated in a mentorship program dedicated to enhancing teaching quality, focusing on topics such as continuous education, inclusive teaching practices, and the integration of Artificial Intelligence in education.
- Connected with a broader community of education practitioners to exchange ideas and practices.

Center for Integration of Research, Teaching and Learning (CIRTL) Spring 2022

- Completed a 12-week course focused on inclusive, learner-centered teaching practices and evidence-based strategies for effective college teaching.
- Researched key principles of teaching theories and practices, emphasizing the development of inclusive and learner-centered approaches.
- Created and refined lesson plans by connecting learning objectives, assessments, and learning activities to build cohesive and engaging instructional experiences.

LEADERSHIP & SERVICE

UW-Madison INFORMS Student Chapter Leadership Aug 2020 – July 2023

President ('22 – '23); Vice President ('21 – '22); Communications ('20 – '21)

- Organized events that built a community for students and faculty interested in operations research and management sciences at UW-Madison.
- Developed several new club initiatives including recurring research meetings and a mentorship program.

UW-Madison ISYE Student & Alumni Affairs Board Aug 2022 – July 2023

- Served on a panel of faculty, staff, and undergraduate and graduate students to advise on various department events and initiatives.

PROFESSIONAL ENGINEERING EXPERIENCE

American Family Insurance, Research Collaborator Aug 2022 – Dec 2023

- Collaborated with research scientists and business leaders in the insurance industry to develop a novel research-based solution to a real-world problem.
- Provided monthly research updates that communicate progress to a range of stakeholders.

St. Onge Company, Industrial Engineering Consultant Jan 2019 – Aug 2020

- Designed healthcare facilities at hospitals across the United States, informing design decisions through analytics, simulation, facility design, and supply-chain planning principles.
- Advocated for operational requirements of healthcare facilities on several multi-disciplinary teams composed of healthcare professionals, architects, designers, and engineers.
- Projects include designing a surgical supply chain at a top-tier children's hospital, planning renovations for the services floor of a large hospital, performing return-on-investment calculations for in-hospital autonomous vehicles, and designing an emergency department via discrete-event simulation.

Walt Disney Company, Industrial Engineering, Three-term Co-op Jan 2017 – Aug 2018

- Independently led various industrial engineering initiatives, enhancing operational efficiencies across Disney parks and attractions.

- Managed various projects, balancing conceptual, technical, and human-focused aspects of industrial engineering. Projects include system optimizations in theme parks, advanced data analytics in cruise line operations, and back-of-house facility management.
- Gained significant professional growth and expertise through direct mentorship by industrial engineering leaders. Enhanced ability to lead and innovate within high-tech environments.

PRESENTATIONS

INFORMS Annual Conference, Phoenix, AZ Oct 2023

- "Ambulance Allocation for Patient-Centered Care."

INFORMS Annual Conference, Indianapolis, IN Oct 2022

- "Uncertainty in Patient Condition and Treatment Pathways in Ambulance Allocation."

IISE Annual Conference, Seattle, WA May 2022

- "Patient Assessment and Response Dynamics in Emergency Medical Service Systems."

HONORS & AWARDS

UW-Madison ISyE Department, Prof. Ben-Tzion Karsh Graduate Student Award Fall 2023

UW-Madison ISyE Department, Graduate Student Travel Funding Fall 2023

NSF Graduate Research Fellowship Program, Honorable Mention Spring 2022

University of Pittsburgh, Industrial Engineering Outstanding Senior Fall 2018

Eagle Scout, Boy Scouts of America 2013

REFERENCES

Laura Albert, Ph.D.
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Industrial and Systems Engineering
University of Wisconsin – Madison
Email: laura@engr.wisc.edu

Justin J. Boutilier, Ph.D.
Assistant Professor
Telfer School of Management
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