

Xing Wang

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403 Mitch Daniels Blvd

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EDUCATION

Georgia Institute of Technology, Atlanta, GA, USA
Ph.D., Industrial and Systems Engineering (Minor: Math), 05/2013
Thesis: Optimizing ride matches for dynamic ride-sharing systems,
Advisor: Prof. Alan Erera
Cumulative GPA: 3.9/4.0

The University of Texas Health Science Center at Houston, Houston, TX, USA
M.S., Health Information Sciences, 08/2006
Cumulative GPA: 4.0/4.0

Southeast University, Nanjing, Jiangsu, China
B.S., Computer Science and Engineering, 07/2004
Cumulative GPA: 89/100, Major GPA: 93/100

WORK EXPERIENCE

Purdue University, West Lafayette, IN, USA **Aug 2023 ~ Current**
Clinical Assistant Professor, Quantitative Methods area, Mitchell E. Daniels, Jr. School of Business

Purdue University, West Lafayette, IN, USA **Aug 2022 ~ May 2023**
Lecturer, Vertically Integrated Projects Program, College of Engineering Administration

- VIP and EPICS mentor: guide undergraduate students to design and solve real-world challenging problems from industry and community organizations.

Auburn University, Auburn, AL, USA **2021 ~ 2022**
Instructor, Department of Systems and Technology, Harbert College of Business

- BUAL 2650: Business Analytics II. This is the second course in quantitative analysis in business. Statistical inference, classification analysis, predictive modeling, forecasting, and an introduction to data mining are covered.
- BUAL 5860: Communicating Quantitative Results in Business. This is a capstone course and students work in teams to solve challenging real-world problems. Students also learn to effectively present the quantitative results to an audience.

Instructor, Department of Mathematics and Statistics, College of Sciences and Mathematics

- STAT 3010: Statistics for Engineers and Scientists. Statistical methods and analysis used in engineering and science are introduced.

General Electric Global Research Center, Niskayuna, NY, USA **2013 ~ 2020**
Lead Engineer in Operations Research

- GE Healthcare manpower management: develop manpower optimization planning algorithms to optimally assign field engineers to job demand with the objective of minimizing travel distance, over time, and new hire cost.
- GE Capital credit rating assignment: develop efficient algorithms to assign customer credit ratings given GE internal probability of defaults target.
- GE Aviation DMRO (Digital Maintenance Repair and Overhaul): develop optimization algorithms to assign parts to engines in the Shop to balance the metrics like inventory, part cost and engine turnaround time.

- GE Power loss attribution analysis for co-gen power plant: develop algorithms to identify the power capacity and thermal performance loss attributed to plant subsystems.
- GE Capital PPNR (Pre-provision Net Revenue) modeling: develop algorithms to forecast PPNR based on key macro variables across various GE businesses.
- DOE ARPA-E NODES (Network Optimized Distributed Energy Systems): develop an optimization framework that determines load flexibility and bids on a day-ahead basis.

General Electric Global Research Center, Niskayuna, NY, USA

2011 ~ 2012

Intern

- Smart Grid: develop algorithms for optimally allocating demand response events.
- Battery energy storage management: develop optimization algorithms to shift and shave peak loads by making use of the battery resource.

Georgia Institute of Technology, Atlanta, GA, USA

2007 ~ 2013

Graduate Research Assistant

- NNLS (Nonnegative least square): derive NNLS methods with application to airline problems
- Rideshare: design and develop optimization algorithms for solving real-time dynamic ride-sharing problems. A simulation study was based on 2008 travel demand data from metropolitan Atlanta. Developed graph theory-based combinatorial optimization and stochastic optimization algorithms to solve multiple-choice scenario problems.

The University of Texas Health Science Center at Houston, Houston, TX, USA

2005 ~ 2006

Graduate Research Associate

- Motion detection (Neural Mechanisms of Multistable Visual Perception)

JOURNAL PUBLICATIONS

- **Xing Wang**, Niels Agatz, Alan Erera, "Stable Matching for Dynamic Ride-Sharing Systems", *Transportation Science*, 52(4), pp 850-867, 2017
- Dayu Huang, Marco Guerriero, **Xing Wang**, "Detecting trend in randomly switched measurements", *Information Fusion (Fusion)*, 2015 18th International Conference on, 1403-1409
- Weiwei Chen, **Xing Wang**, Jon Petersen, Rajesh Tyagi, Jason Black, "Optimal Scheduling of Demand Response Events for Electric Utilities", *IEEE Transactions on Smart Grid*, vol. 4, pp. 2309-2319, Dec 2013
- Niels Agatz, Alan Erera, Martin Savelsbergh, **Xing Wang**, "Optimization for Dynamic Ride-sharing: A Review", *European Journal on Operational Research*, Part B, 223(2), pp 295-303, 2012
- Niels Agatz, Alan Erera, Martin Savelsbergh, **Xing Wang**, "Sustainable Passenger Transportation: Dynamic Ride-Sharing: a Simulation Study in Metro Atlanta", *Transportation Research, Part B Methodological*, 45(9), pp 1450-1464, 2011

PATENTS

- "Integrated Cybersecurity Risk Assessment and State Monitoring for Electrical Power Grid" (Jun 21, 2018)
- "Refinery Insight is software solution which forecasts production losses and provides recommendation to recover or mitigate such losses" (Oct 17, 2017)
- "A Method for Day-ahead Scheduling of Flexible Loads & DERs" (Dec 15, 2016)
- "Methods for Optimally Allocating Demand Response Events" (Dec 15, 2011)

HONORS AND AWARDS

- Above & Beyond Bronze Award (Deliver results in an uncertain world): develop the flexible loads forecasting and optimization for the DOE (Department of Energy) project, 03/2017
- Above & Beyond Bronze Award (Deliver results in an uncertain world): win the 2016 GRC Dushman Award as part of the GE Research/GE Capital analytics team, 05/2016
- Above & Beyond Bronze Award (Stay lean to go fast): scale the digital twin operating optimization template - loss attribution, 05/2016
- Above & Beyond Bronze Award (Deliver results in an uncertain world): successfully lead the Management Sciences 2015 strategic offsite, 06/2015
- Above & Beyond Bronze Award (learn and adapt to win): model risk management FastWorks session for leveraged lending GE Capital, 05/2015
- Above & Beyond Bronze Award (expertise): build and validate stress testing model for GE Capital, 11/2014
- Above & Beyond Bronze Award (expertise): build a powerful battery load forecaster & schedule optimizer, 03/2012
- Computational Cognitive Neuroscience Conference 2006 Fellowship, 10/2006
- First prize in a poster competition on 11th Annual Research Day held by UT - Health Science Center, 11/05
- Golf Tournament Endowment Scholarship in UT-Health Science Center, 10/05
- Southeast University "Protective Relaying" Industrial Scholarship (5 out of 200), 2002-2003
- Class-A Student Honor, 2002-2003
- Skill Level 10 (highest rank) in the Piano-Playing Examination in Jiangsu Province, China, 1996

SKILLS

- Programming Language: C++, Java, MATLAB, Python, R
- Optimization Software: LINDO, CPLEX, Gurobi, CBC
- Simulation Software: Arena