

Andy Alexander, Ph.D.

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EDUCATION

Purdue University, West Lafayette, IN
Krannert Graduate School of Management
Ph.D. Quantitative Methods

Dissertation Title: "*Maintenance Outsourcing: Sustaining System Coordination under Symmetric and Asymmetric Information*"

Indiana University, Bloomington, IN
Kelley School of Business
M.B.A. Entrepreneurship, M.B.A. Information Systems Strategy

Indiana University, Bloomington, IN
Kelley School of Business
B.S. Computer Information Systems, B.S. Finance

EXPERIENCE

Purdue University, West Lafayette, IN 2017 – Current
Lecturer & Course Coordinator, Quantitative Methods Area (QM), Daniels School of Management and the Krannert Graduate School of Management
Full-time Lecturer and Course Coordinator for MGMT 306: Management Science and MGMT 670: Business Analytics in the Krannert Online MBA Program (oMBA).

- Four-time winner of Krannert Outstanding Undergraduate Teacher Award (2018, 2019, 2020, 2021). Voted by the Daniels graduating undergraduate student class.
- Charged with managing and coordinating internal resources (additional instructors, operations support, teaching assistant, and graders) to instruct over 200 students per semester across multiple sections of in-person and online modalities.
- Updated curriculum, course pacing, and deliverables to reflect more hands-on quantitative work. Student learning and evaluations both increased.
- Advise students on full-time and internship interview strategies, networking and career planning, major/minor/concentration selection, and resume writing tips. Help students negotiate job offers, increasing total compensation for students each semester by thousands of dollars.
- Additional classes taught include business statistics, business analytics, and advanced spreadsheet design.

Ball State University, Muncie, IN 2015 – 2016
Instructor and Business Analytics Head Faculty, Department of Information Systems and Operations Management (ISOM)

Full-time instructor and head of Business Analytics (BA) program. Responsibilities included:

- Authored new curriculum: Introduction to Business Analytics (optimization, management science), Data Mining (R programming, machine learning), Data Warehouse & Business Intelligence (Hadoop, Spark), and Managing Big Data (keystone project).
 - Advertised new degree track to students and worked with student advising services to create a four-year graduation plan for business and non-business students.
 - Formed an Advisory Board of executives, managers, and corporate leaders for BA program guidance and stewardship.
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Purdue University, West Lafayette, IN

2009 – 2014

Instructor/Graduate Assistant, Krannert School of Management

Doctoral student in Quantitative Methods Area with responsibilities that included course instruction, classroom and lab assistance, and research.

- Three-time winner of the *Krannert Certificate for Distinguished Teaching Award*, the highest teaching award for graduate student instructors.
- Presenting Author, "Manufacturer's Profit in Maintenance Outsourcing with Menu Contract", INFORMS 2013
- Ross Fellowship Recipient, Krannert School of Management
- Krannert Doctoral Student Association (KDSA) Vice President of Philanthropy

Protiviti, Chicago, IL

2006 – 2009

Senior Consultant, Information Security

IT Security specialist for an international risk consultant firm. Managed and contributed to broad array of projects in security, privacy, and IT audit. Key projects included:

- Assembled and managed a ten-person audit team dedicated to reviewing a highly decentralized application access administration environment for one of the largest banks in the world. Completed client's highest profile audit on time despite an expedited schedule.
- Implemented a global vulnerability management solution, which reduced global infrastructure footprint over five countries and provided scalable efficiencies.
- Other projects included: External and Internal Penetration Testing, Identity Management, HIPAA Privacy Assessment and Policy Review, Vendor Management Privacy Program Review, and Configuration Management Audit.

Indiana University (IUPUI), Indianapolis, IN

2002 – 2004

Systems Coordinator, UITs Support Center

IT manager, security leader and trainer, and network specialist.

- Managed tier one support call center employees, increasing call productivity through schedule optimization, training, and knowledge sharing.
- Provided tier two technical support and managed departmental network security controls and software configurations.

INDUSTRY PROJECTS

- *Machine Learning and Statistical Consultant* – Expert consultant for LHP Engineering Solutions. Past project for largest client (Cummins, Inc.) included North American Net Promoter Score (NPS) data analysis to improve customer approval and retention rate. Through executive leadership support, the statistical insights and strategic suggestions were then rolled out worldwide. Second project comprised of consolidating and analyzing engine diagnostic output of over 1,000 variables to identify cause of failure error codes. Results and analytical approach rolled out to other projects within Cummins. Most recent project with Rolls Royce identified possible cause of MT30 gas turbine engines running out of specifications on Zumwalt-class destroyers in the U.S. Navy.
 - *Co-founder and CFO*, TripTwos – A startup gaming company focused on improving online poker play. Created software that used statistical simulations, machine learning, and database tracking of opponents to recommended actions for Limit Texas Hold'em poker players. Sold company to largest client.
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PERSONAL RESEARCH

Research interests include data science, big data, operations research, sports analytics, and optimization. The economic game theory and operations research theoretical work in my dissertation was supported with analytical results generated from custom MATLAB code.

- Alexander, A., Li, Y., and Plante, R. (2017). "Sustaining system coordination in outsourcing the maintenance function of a process having a linear failure rate". *IIE Transactions*, 49(5), 544-552.
- Andy Alexander, Yanjun Li & Robert Plante (2023) Comparative study of two menus of contracts for outsourcing the maintenance function of a process having a linear failure rate, *IIE Transactions*, 55:12, 1230-1241.

STUDENT RESEARCH PROJECTS

Supervised and mentored several undergraduate student research projects, including:

- Spring 2023, MGMT 490: Predictive Data Analytics. A customized, single student research course pertaining to financial decision-making and forecasting in the sports industry.
- Spring 2020, Honors Scholarly Project – A yearlong research project focused on an analytical study and prediction model for commercially successful Hollywood films. The student won first prize for Oral Presentations at the Office of Undergraduate Research (OUR) Symposium for his presentation, "Predicting Movie Profitability".
- Spring 2019, Student Research Project – A student research project titled "Applying Business Analytics to Improve Competitive League of Legends (LoL) Decision-Making" that won first place in the Poster Presentation category at the 2019 Purdue Undergraduate Research Conference. The model increased the likelihood of victory by 6.5% in the highest level of competition for League of Legends, a popular multiplayer online battle arena video game.

ONLINE TEACHING EXPERIENCE

- Purdue University, Instructor
 - MGMT 670: Business Analytics 2020 – Current
 - MGMT 306: Management Science as HyFlex sections 2020 – 2022
- Benedictine University, Instructor 2009 – 2010
 - MBA 651: Financial Accounting
 - MBA 683: Project Management
- Subject Matter Expert and Instructor, Rasmussen College 2010
 - N253: Managing Information Security

BACKGROUND, SKILLS, CERTIFICATIONS & AWARDS

- Faculty Advisor for Boilermaker Consulting Group (BCG)
 - Founding Advisor for the Yellowdig Academic Advisory Council (YAAC)
 - Proficient in R, Minitab, MATLAB, Advanced MS Excel. Experience in Python and Tableau
 - Judge, 2016, 2017, 2018 Baseball Hack Days – Chicago
 - CISSP – Certified Information Systems Security Professional (2008-2011)
 - CISA – Certified Information Systems Auditor (2008-2011)
 - CIPP – Certified Information Privacy Professional (2008-2011)
 - Faculty-Selected Member, Entrepreneurship Management Academy, Indiana University
 - Kelley School of Business Merit Scholarship Recipient, Indiana University
 - President, Kappa Sigma Fraternity – Beta Theta Chapter, Indiana University
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