Ashkan Mirzaee

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Education

Ph.D., Industrial Engineering and Operations Research *December 2021*
Minor, Statistics
University of Missouri, Columbia, MO

- Advisor: Dr. Ronald G. McGarvey

M.S., Industrial Engineering and Operations Research *May 2017*
University of Missouri, Columbia, MO

B.S., Industrial Engineering *December 2010*
Azad University, Arak, Iran

Experience

Graduate Research Assistant *February 2016 - present*
University of Missouri, Columbia, MO

- Developing a robust optimization model to identify minimum cost-emission of generating electricity by co-firing biomass and natural in coal burner power plants
- Performed linear and spatial panel regression analysis to estimate the impact of woody biomass demand on forest attributes in the Eastern US
- Developed a Python query system for large data analysis of the US Forest Inventory SQL data-sets
- Conducted research and large SQL data analysis for improving demand forecasting methods and minimizing inventory costs for Anheuser-Busch supply chain

Cyberinfrastructure Engineer *January 2020 - present*
Research Computing Support Services, University of Missouri, Columbia, MO

- Install, configure, and maintain multiple Linux systems in support of high performance computing in a scientific Linux environment for university researchers
- Secure and monitor systems and consult with researchers, and students on securing applications
- Provide documentation and training in the use of a shared high performance computing environment and associated scientific software

Intern Research Assistant *June 2019 - August 2019*
Resources for the Future, Washington, DC

- Collaborated to include woody biomass to the RFFs Haiku electricity market model
- Created a Python web scraping program to collect large set of woody biomass data for running in Haiku model

Industrial Engineering Operations Specialist *March 2016 - December 2016*
EternoGen Aesthetics, Columbia, MO

- Built and maintained database for procurement and inventory management system
- Performed statistical analysis and collaborated to meet ISO 13485 compliance

Graduate Teaching Assistant *January 2015 - January 2016*
University of Missouri, Columbia, MO

- Teaching assistant for Engineering Statistic, Manufacturing and Supply Systems, Energy Efficiency and Natural Resources Policy courses
- Delivered lectures and discussions, conducted exams, and helped students with R programming

Computing

Python, R, Bash, SQL, GAMS, HPC Clusters, Linux Administration, Git, Emacs

Publications

- Mirzaee, A., McGarvey, R.G. & Aguilar, F.X. Multi objective optimization for identifying level of bioenergy generation in coal burning power plants. *in progress.*
- Mirzaee, A., Aguilar, F.X., McGarvey, R.G. & Schliep E.M. Impact of bioenergy demand on US forest resources. *in progress.*
- Aguilar, F.X., Mirzaee, A., McGarvey, R.G. et al. Expansion of US wood pellet industry points to positive trends but the need for continued monitoring. Sci Rep 10, 18607 (2020). https://doi.org/10.1038/s41598-020-75403-z
- Mirzaee, A. & Awwad, M. Shortest path algorithm in the presence of polyhedral forbidden regions. in 67th Annual Conference and Expo of the Institute of Industrial Engineers 2017 (2017).
- Mirzaee, A. Alternative methods for calculating optimal safety stock levels. University of Missouri (University of Missouri-Columbia, 2017).

Presentations

- CO_2 Emissions reduction by identifying optimal level of co-firing biomass and natural gas in coal-burning power plants, INFORMS Annual Conference, October 2019, Seattle, WA
- Woody biomass use for biopower and its impact on forest resources, INFORMS Annual Conference, November 2018, Phoenix, AZ
- Shortest path algorithm in the presence of polyhedral forbidden regions, IISE Annual Conference, May 2017, Pittsburgh, PA
- Calculating optimal safety stock levels, CELDi Conference, October 2016, Columbia, MO
- Alternative methods for calculating optimal safety stock levels, CELDi Conference, April 2016, Atlanta, GA

Affiliations and Awards

- XSEDE Student Champions
- Alpha Pi Mu, Industrial Engineering Honor Society
- Institute for Operations Research and the Management Sciences (INFORMS)
- Institute of Industrial and Systems Engineers (IISE)
- Graduate Professional Council, Student Affairs Committee, August 2015 - August 2016
- IMSE Travel Award ($500), University of Missouri, October 2019
- Innovative Design Competition, 1st place award ($1,500), IISE Annual Conference, May 2017
- Mizzou Advantage Graduate Award ($600), University of Missouri, April 2017
- Outstanding IMSE Masters Student Award, University of Missouri, March 2017
- GIA Award Scholarship ($10,000), University of Missouri, January 2017