KIMIA VAHDAT

kvahdat@ncsu.edu ⋄ https://www.linkedin.com/in/kimia-vahdat-434a43135/

SUMMARY

A Second-year PhD student, pursuing a minor in statistics with proven skills in data analysis and simulation optimization; interested in exploring innovative ideas in combination of Machine Learning and Operations Research; eager to learn, exploit and expand the state of the art of Optimization and Data science as a researcher and/or software developer.

EDUCATION

Ph.D. Student in Industrial Engineering	Aug. 2018 - May 2023
North Carolina State University, Raleigh, NC	GPA: 4.00/4.00
B.Sc. in Industrial Engineering	Aug. 2014 - July. 2018
Sharif University of Technology, Tehran, Iran	GPA: 4.00/4.00

RESEARCH INTERESTS

- Data Analysis and Machine Learning
- Simulation Optimization
- Operations Research
- Deep Learning and Neural Networks

SKILLS

- **Data Science:** Predictive Analytic, Data and Quantitative Analysis, Deep Learning, Forecasting and Time Series Analysis, Data Mining and Visualization Tools, Statistical and Machine Learning Algorithms and Experimental Design

- **Operations Research:** Mathematical Programming, Simulation Optimization, Stochastic Optimization, Integer Programming, Meta-heuristic Search Algorithms and Discrete-event Simulation

- **Programming:** R, Python, MATLAB, SAS, C#, C, SQL

- **Machine Learning and Deep Learning Packages:** NumPy, Pandas, Keras, TensorFlow, PyTorch

- **Optimization Packages:** Gurobi, GAMS, Lingo

- **Data Visualization:** JMP, Tableau, Visual Paradigm, Power BI, Access

COURSE PROJECTS AND POSTERS

Poster Title: "Improved Feature Selection with Simulation Optimization"   Aug. and Dec. 2019
FOPAM Workshop, Raleigh, NC, and Winter Simulation Conference, National Harbor, MD

- Presented at both FOPAM and WSC poster sessions under supervision of Dr. Shashaani
- Presented an optimization algorithm for feature selection using simulation optimization and a comparison between our algorithm and existing algorithms
- Used various packages in R Programming Language

Data Science in Industrial Engineering Course Project   Spring 2019
North Carolina State University, Raleigh, NC

- Worked under Supervision of Dr. Fang
- Used the AD Big Data DREAM Challenge data to implement various models to reach a high prediction accuracy for both classification and regression

- The classification methods Logistic Regression, K-Nearest Neighbor, SVM and Regression Trees were employed
- Used R to implement various Regression methods such as GLM and transformation of the response variable

Logistic Engineering Course Project, Constructing Routes for NCSU Wolf-line Buses Spring 2019
North Carolina State University, Raleigh, NC

- Worked under supervision of Dr. Kay
- Used MATLAB to employ on-line and off-line heuristics to construct routes for NCSU buses,using forecasted demand points and compared our results with current routes

Implementation of Forecasting Models in Financial Engineering Spring 2018
Sharif University of Technology, Tehran, Iran

- Discussed different methods of forecasting such as GARCH, ARCH and ARIMA in forecasting Iran's Market stock's values
- Used SAS Programming Language

Database Management Course Project Spring 2017
Sharif University of Technology, Tehran, Iran

- Developed a database structure for an airplane ticketing website using business intelligence visualization tools
- Applied different applications such as Tableau, Visual Paradigm and Access for designing a complete executive management level dashboard

Simulation Course Project Spring 2017
Sharif University of Technology, Tehran, Iran

- Developed discrete event simulation for a car wash queuing system using C# programming Language

ACADEMIC EXPERIENCES

Graduate Research Assistant Fall 2019 - Present
NC State University, Raleigh, NC

- Advisor: Dr. Shashaani
- Developing an algorithm for solving stochastic combinatorial optimization problems using simulation optimization.
- One of the interesting applications of this algorithm is solving feature selection problem in data analysis.

Teaching Assistant, Quality Control Course Spring 2017 - Spring 2018
Sharif University of Technology, Tehran, Iran

- Responsible for holding problem sessions and guiding students through their course work.

AWARDS AND HONORS

- Awarded with grade "High Pass" on the doctoral qualifying exam Summer 2019
- The "Edward P. Fitts Graduate Fellowship" Fall 2018
- The Graduate Merit Award Fall 2018
- The University Graduate Fellowship Fall 2018
- The Sharif University of Technology "Top Ranked Student Award" Spring 2017
- The National Elites Foundation Award Fall 2016 and 2014

LEADERSHIP

Vice-president Oct. 2019 - Present
INFORMS chapter at NC State University, Raleigh, NC

Program Coordinator May 2019 - May 2020
Iranian Students Association at NC State University, Raleigh, NC