Sajjad Amrollahi Biyouki

Contact Information

Department of Industrial and Systems Engineering
The University of Tennessee, 851 Neyland Drive
Knoxville, TN 37966

Email:samrolla@vols.utk.edu
Phone:+1(865) 232-0994
https://sajjadbiyouki.github.io

Education

The University of Tennessee, Knoxville, USA *May 2022*
Ph.D, Operations Research - Industrial and Systems Engineering
Minor Computational Science -GPA: **3.87/4**

The University of Tennessee, *Knoxville, USA* *May 2022*
Haslam College of Business
M.S, Statistics - GPA: **4/4**

Amirkabir University of Technology(Tehran Polytechnic) *Oct 2016*
M.S, Industrial Engineering
Economic and Social Systems - GPA: **3.9/4**

Amirkabir University of Technology(Tehran Polytechnic) *Sep 2014*
B.S, Industrial Engineering - GPA: **3.5/4**

Research Interests

Statistical Machine Learning, Pattern Recognition, Data-driven Decision Making, Applied Statistics, Deep Learning, Digital Image Processing, Decision Support Systems

Teaching Interests

Machine learning, Data Mining, Probability and Statistics, Analytic, Data-driven Decision Making, Management Information Systems, Operation Research

Research, Teaching, and Professional Experience

Graduate Assistant **Jan 2019 - present**
The University of Tennessee, Knoxville

- **Research Assistant**
  - Develop a novel Blind Deconvolution algorithm for blurred Satellite Images
  - Develop an ANN Metamodel-based Simulation Optimization approach for Supply Chain Problem under Uncertainty
  - Day-ahead Precipitation Class Prediction via Stacked LSTM Autoencoders
  - Develop a Deep Reinforcement Learning to schedule the tasks of Distributed Systems

- **Teaching Assistant**
  - Design of Experiments- Instructor: Dr. Hoon Hwangbo *Fall 2020*

Business Data Analyst **May 2017 - Nov 2018**
Management Systems Co.

- Analyze the customer's business and data to identify their needs
- Develop the customized Dynamics CRM system based on requirements
- Develop integrated customer portals using HTML, CSS
- Data Extraction and Data Wrangling using SQL
- Develop machine learning models to predict and track the customers' loyalty

Research Assistant **Sep 2014 - Aug 2016**
Computational Intelligence Lab, Tehran Polytechnic
Supervisor: **Prof. Mohammad Hossein Fazel Zarandi**

- Develop a data-driven system for thyroid function diagnosis and nodule detection based on thyroid images (Radioisotope) using unsupervised image segmentation and machine learning techniques in Python
- Develop an enhanced unsupervised fuzzy clustering algorithm for image segmentation in Python
- Develop a rule-based decision support system for thyroid lab test data

Honors and Awards	• Ranked 2nd in GPA among graduate peers in the field of Eco-social Systems Engineering in Tehran Polytechnic, 2016. • Admitted to Amirkabir University of Technology, Tehran Polytechnic (Ranked among the top 3 universities in Iran), 2010; 2014. • Ranked among 0.2% in the nationwide undergraduate entrance exam, 2010.

Publications	• **Published**
	  • **S.A. Biyouki**, MH. Fazel Zarandi, Fuzzy Rule-based Expert System for Diagnosis of Thyroid Disease, 2015 IEEE Conference on Computational Intelligence in Bioinformatics and Computational Biology, Niagara Falls, Canada.
	
	• **Under Review and Ready to Submit**
	  • MH. Fazel Zarandi, **S.A. Biyouki**, Data-driven Fuzzy Modeling for Thyroid Function Diagnosis and Nodule Detection based on Radioisotope Images.
	  • E. Sharifnia, **S.A. Biyouki**, Robust ANN Simulation Optimization for Supply Chain Problemunder Uncertainty with Customer Satisfaction Analysis.
	
	• **Working Papers**
	  • **S.A. Biyouki**, H. Hwangbo, Incorporated Several Kernels for Blind Deconvolution of Satellite Imaging.
	  • **S.A. Biyouki**, et. al, Deep Reinforcement Learning for Scheduling Distributed Systems Tasks.

Technical Skills	**Programming :** Python, Matlab, Java(ImageJ), HTML,CSS, LaTeX **Statistics and Database :** R, SAS, MySQL, SQL **Data Visualization and Big Data :** Tableau, PowerBI, Hadoop **Familiar :** Django, C++, Azure, AWS, MapReduce **General :** Data Structures, Algorithms, Object Oriented Programming, Problem-solving, Software Design
UTK Courses	• Reinforcement Learning • Deep Learning • Data Mining • Digital Image Processing • Stochastic Processes • Bayesian Statistics • Heuristics in Optimization (Algorithms) • Categorical Data Analysis • Machine Learning
Certification	**Coursera:** • Neural Networks and Deep Learning (deeplearning.ai) • Convolutional Neural Networks (deeplearning.ai) • Machine Learning with Python (IBM) • Bayesian Statistics:Mixture Models (University of California, Santa Cruz) • Probabilistic Graphical Models Specialization (Stanford University)

Professional and Academic Services	**Journal Reviewer:**
	• Neural Computing and Applications • Journal of Cleaner Production
	
	Professional
	  • Iranian Student Association(ISA)-UTK : President-(2020-2021), Vice President-(2019-2020)
	
	Membership
	  • Institute of Operations Research and the Management Sciences (INFORMS)
	  • Institute of Industrial and Systems Engineers
	  • IEEE