Farzin Ahmadi

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PhD Student in Civil and Systems Engineering at Johns Hopkins University.

EDUCATIONAL BACKGROUND

Ph.D. in Civil and Systems Engineering 2019 – 2024
Johns Hopkins University, Baltimore, MD, USA
GPA   : 4/4 (currently)
Supervisor: Professor Kimia Ghobadi
Courses:
1. Topics in Optimizations: Integer, Robust and Inverse Optimizations, Prof. Kimia Ghobadi (A+)
2. Introduction to Network Modeling, Prof. Lauren Gardner (A)
3. Introduction to Convexity, Prof. William Cook (A)
4. Deep Learning in Discrete, Optimization Prof. William Cook (A)
5. Introduction to Data Science, Prof. Tamas Budavari (P)
6. Combinatorial Optimization, Prof. Amitabh Basu (A)

M.Eng. in Road and Highway Engineering 2016 – 2018
Sharif University of Technology, Tehran, Iran
GPA   : 3.00/4
Supervisor: Professor Nader Tabatabaee
Courses:
1. Advanced Asphaltic Materials (ranked 3rd),
2. Engineering Operation Research,
3. Advanced Pavement Engineering,
4. Simulations (ranked 3rd),
5. Pavement Management and Maintenance,
6. Advanced Traffic Engineering
7. Airport Programming
8. Railroad Engineering
9. Advanced Engineering Mathematics

B.Sc. in Civil Engineering 2012 – 2016
Sharif University of Technology, Tehran, Iran
GPA   : 3.73/4
Selected Courses: Traffic Engineering (4/4), Pavement Analysis and Design and Lab. (ranked 1st),
Numerical calculations (ranked 1st), Elementary Finite Element Methods (ranked 3rd),
Road Design Project (ranked 1st), Differential Equations (ranked 1st)

High School Diploma 2008 – 2012

Mathematics and Physics, NODET (Shahid Beheshti School), Abhar, Iran

GPA (Senior year)   : 4.00/4
GPA (Pre-university year)   : 4.00/4

RESEARCH INTERESTS

- Decision Making in Healthcare
- Inverse Optimization and its applications on Healthcare
- Optimizations and Simulations
- Machine Learning Approaches to big data applications in Radiation Therapy

PUBLICATIONS

Submitted Work:
- An Open-Source Dataset on Dietary Behaviors and DASH Eating Plan Optimization Constraints
- Optimal Resource and Demand Redistribution for Healthcare Systems Under Stress from COVID-19
- Inverse Learning: A Data-driven Framework to Infer Optimizations Models

Working Papers:
- Optimal Scheduling of Hospital Operation Rooms
- Emulating Human Decision-Making Under Multiple Constraints

WORK EXPERIENCE

Kanoon Farhangi Amoozesh: Project Management and Data Provision and analysis <u>since winter 2016</u>

Project Management and Data Provision and analysis for WoW.kanoon.ir, an English Vocabulary Learning website in Iran with more than 59000 users alongside with managing different tasks such as data analysis, website debugging, board meetings, content Editing, database management and all in all, managing and collaborating with a talented 4-member team.

AWARDS AND HONORS

- Top 20 percent in Civil Engineering, class of 2012, Sharif University of Technology
- Straight Invitee to Participate in the M.Sc. program of Highway and Pavement Engineering, Department of Civil Engineering, Sharif University of Technology (2016)
- Honored as a "Brilliant Talented Student" by Iran's National Elites Foundation (2014)
- Ranked 221st (top 0.085%) among more than 260000 participants of National University Entrance Exam, Mathematics and Physics (2012)
- Ranked 171st (top 1.31%) among more than 13000 participants of National University Entrance Exam, Foreign Languages (2012)

COMPUTER AND TECHNICAL SKILLS

Programming Languages: Python, MATLAB, Java, Julia, R, Pascal, Latex

Miscellaneous: MS Office, AutoCAD, AutoCAD Civil 3D, MathCAD, Etabs, Safe, SAP2000, EPANET, SPSS, PDMS, HEC-HMS, HEC-RAS, COMFAR, KENLAYER, VISSIM, Synchro, CorelDraw x7, Photoshop, SQL and Database, Gorubi,

TEACHING EXPERIENCE AND LECTURES

Civilization Engineered
Guest Lecture on Healthcare Decision Making (2020)

Pavement Analysis and Design and Lab. (5 Semesters)
Teaching Assistant, Fall (2015), Spring (2016), Spring (2017)
Lab. Assistant, Fall (2017)
Instructor: Prof. Nader Tabatabaee, CE Department, Sharif University of Technology
Teaching Assistant, Fall (2016)
Instructor: Prof. Ehsan Haghighat Kharrazi, CE Department, Sharif University of Technology

Structural Analysis 2 (2 Semesters)
Teaching Assistant, Fall (2015), Spring (2016)
Instructor: Prof. Kiarash Mohtasham Dolatshahi, CE Department, Sharif University of Technology

LANGUAGE SKILLS

English: Fluent
TOEFL iBT: 109/120 (Reading: 28, Listening: 30, Speaking: 25, Writing: 26)

GRE General Test: 324/340 (Verbal Reasoning: 155, Quantitative Reasoning: 169, Analytical Writing: 4.0)

Professional Translation Skill: English to Persian and Vice Versa Professional Translator for more than 8 years

Persian: Native

Arabic: Familiar

Turkish: Familiar

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NOTABLE PROJECTS

Johns Hopkins University

- Coronavirus COVID-19 Global Cases Dashboard by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University- Central role in maintaining US county and state level data in a timely and accurate manner, working simultaneously with different state level health organizations in the US.
- Inverse Optimization, a survey on the subject from all the literature (current)
- A Data-Driven Approach to Inverse Optimization and its Application in Diet Recommendation (current)
- Combining Machine Learning and Inverse Optimization Techniques for Radiation Therapy (current)
- Novel Integer Programming Techniques in Neural Networks
    - Poster created providing a method that handles resource allocation network problems using existing neural network models.

Sharif University of Tech.

- Programming a variety of simulation scenarios using Java programming language, Spring 2018
- Analysis of a four-way intersection and traffic Data gathering and analysis using VISSIM and Synchro, fall 2016
- Designing of a Two-way Road by Civil 3D and Analysis of Different Variants, spring 2016
- Designing and Programming of a Linear Finite Element Model by MATLAB. Spring 2016
- Research on Asphalt Rheology: Experimental Determination of Dynamic Moduli at Low Temp., spring 2017
- Research on Models for Low Temperature Cracking in Asphaltic Material, spring 2017
- Research on Open Graded SMA and Stone Matrix Asphalt, spring 2017
- Research on Input Characterization for Asphalt and PCC Materials, fall 2016
- Research on Network-level Pavement Management M&R Planning, spring 2017
- Research on Network-level and Project-level Airfield Pavement Management Methods, Designing and planning of Airfields term paper, fall 2017

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EXTRACURRICULAR ACTIVITIES

Sports: Soccer, ping pong

Hobbies: Watching Movies, Programming

Other: Video Games

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REFERENCES

Available Upon Request.