

Vahid Balazadeh Meresht

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GitHub: github.com/vdblml

RESEARCH INTERESTS

- reinforcement learning, causality, machine learning applications in healthcare

EDUCATION

University of Toronto

PhD in Computer Science

- Supervisor: Rahul G. Krishnan

Toronto, Canada

Sep. 2021 – Present

Sharif University of Technology

B.S., Double Major in Computer Engineering and Mathematics, GPA: 18.20/20

- Thesis: Multivariate Analysis and Visualization using R Package muvis

Tehran, Iran

Sep. 2015 – Sep. 2020

RESEARCH EXPERIENCE

Max Planck Institute for Software Systems

Research Intern, supervised by *Dr. Manuel Gomez Rodriguez*

- Learning to Switch Between Machines and Humans
- We gave an optimal solution for switching between two agents (machine/human) in a Markov Decision Process (MDP) framework. We also proposed a reinforcement learning algorithm with sublinear regret bound for the case of unknown human policy. The work is submitted to the **UAI2021** conference

Kaiserslautern, Germany

Jul. 2019 – Sep. 2020

Sharif University of Technology

Researcher, supervised by *Dr. Ali Sharifi-Zarchi*

- R package “muvis”
- We implemented an R package for multivariate analysis and visualization; it provides a complete workflow for finding significant associations between variables, especially in health surveys. We also proposed a novel approach to detect effective variables on abnormal samples, based on KL-divergence.

Tehran, Iran

Jul. 2018 – Jun. 2019

WORK EXPERIENCE

Cafe Bazaar

Data Scientist at Video Team

Daal GPS navigation app startup

Research and Development

- Real-Time Traffic Prediction System
- Our goal was to find the estimated time of arrival (ETA) for all edges in a map using a small sample of GPS data. I developed a highly accurate neural network model (mostly by “Keras” library), which inputted ETA of skeleton edges of the map and outputted ETA for all the roads. It is used as the core of the traffic system in that commercial application.

Tehran, Iran

Sep. 2020 – Aug. 2021

Tehran, Iran

Jan. 2018 – May 2018

PAPERS

- [1] **V. B. Meresht**, A. De, A. Singla, and M. Gomez-Rodriguez, “Learning to switch between machines and humans”, *arXiv preprint arXiv:2002.04258*, 2020.
- [2] E. Heidari, **V. Balazadeh Meresht**, and A. Sharifi-Zarchi, “Multivariate analysis and visualization using r package muvis”, *arXiv preprint arXiv:1810.12184*, 2018.
- [3] E. Heidari, M. A. Sadeghi, **V. Balazadeh-Meresht**, N. Ahmadi, M. Sadr, M. Mirzaei, and A. Sharifi-Zarchi, “An end-to-end workflow for statistical analysis and inference of large-scale biomedical datasets”, *medRxiv*, 2020.

HONORS AND AWARDS

- Ranked **3rd** among more than **180,000** participants in the Iranian Nation-wide University Entrance Exam 2015
- Admission with full scholarship to **MPI-SWS Summer Internship**, Germany Summer 2019
- Recipient of the Grant for undergraduate studies from the Iranian National Elites Foundation 2015 –2020

RELATED COURSES

- Artificial Intelligence (20/20), Probability Theory (19.9/20), Math Analysis 1 (18/20), Linear Algebra (17.5/20), Linear Programming (19.1/20), Stochastic Processes (17.9/20), Design of Algorithms (19/20)
- *Grad. Courses*: Real Analysis (18/20), Stochastic Analysis (17.3/20), Matroid Theory (18.5/20), Fundamentals of Bioinformatics (20/20)

TEACHING EXPERIENCE

- **Teaching Assistant** at Sharif University of Technology
 - Stochastic Processes *Grad. Course* Spring 2019
 - Linear Algebra Fall 2018
 - Engineering Probability and Statistics Spring, Fall 2018

SERVICE / (PROGRAMMING) LANGUAGES

- **Reviewer**: AAAI 2021
- **Programming**: Python (SKlearn, pandas, PySpark, Numpy, Matplotlib), R, JavaScript, Java, C++
- **Languages**: English, Persian, Azerbaijani
 - TOEFL iBT: 107 (Reading: 29, Listening: 28, Speaking: 23, Writing: 27)