Soroush Omidvartehrani

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Education

2022–   **Ph.D. in Computer Science**, University of Alberta, Canada (Ongoing)
- Total GPA: 4/4

2017–2021   **M.Sc. in Computer Engineering**, Ferdowsi University of Mashhad, Iran
- Total GPA: 17.53/20 (3.77/4) → Ranked 3rd
- Last year GPA: 18.53/20 (4/4)

2013–2017   **B.Sc. in Computer Engineering**, Ferdowsi University of Mashhad, Iran
- Total GPA: 16.56/20 (3.29/4) → Ranked 2nd
- Last 2 years GPA: 17.73/20 (3.69/4)

Research Interests

Database — Data integration — NLP

Publications

2024   **GXJoin: Generalized Cell Transformations for Explainable Joinability**, *Soroush Omidvartehrani*, Arash Dargahi Nobari, Davood Rafiei, European Conference on Advances in Databases and Information Systems (ADBIS 2024), held in Bayonne, France

2023   **Discovering and Integrating Tabular Data**, Davood Rafiei, Arash Dargahi Nobari, *Soroush Omidvartehrani*, Tabular Data Analysis (TaDA) Workshop @ VLDB 2023, held in Vancouver, Canada

2022   **Online Electricity Theft Detection Framework For Large-Scale Smart Grid Data**, *Soroush Omidvartehrani*, Afshin Shahrestani, Mohammad Hossein Yaghmaee Moghaddam, Electric Power Systems Research Journal

2021   **Filter Based Time-Series Anomaly Detection in AMI using AI Approaches**, Alireza Rahimi, Afshin Shahrestani, Sina Ramezani, Pedram Zamani, *Soroush Omidvartehrani*, Mohammad Hossein Yaghmaee Moghaddam, 5th International Conference on Internet of Things and Applications, held in Isfahan, Iran

2021   **Anomaly in Power Consumption** (in Persian), *Soroush Omidvartehrani*, Mohammad Hossein Yaghmaee Moghaddam, ISBN: 978-622-7605-38-9, Tolooe Majd, Iran

2020   **Decision Tree based Electricity Theft Detection in Smart Grid**, *Soroush Omidvartehrani*, Mohammad Hossein Yaghmaee Moghaddam, Mohsen Asadi, 4th International Conference on Internet of Things and Applications, held in Mashhad, Iran

2019   **Extracting Effective Features for Descriptive Analysis of Household Energy Consumption using Smart Home Data**, Hadise Moradi, *Soroush Omidvartehrani*, Behshid Behkamal, Haleh Amintoosi, High Performance Computing and Big Data Analytics Congress, held in Tehran, Iran

2019   **Analysis of electricity consumption in smart homes using time hierarchy** (in Persian), *Soroush Omidvartehrani*, Hadise Moradi, Behshid Behkamal, Haleh Amintoosi, 3rd International Conference on Internet of Things and Applications, held in Isfahan, Iran

2018   **FUMBOT: Design, Implementation and Detection**, *Soroush Omidvartehrani*, Haleh Amintoosi, 9th OIC-CERT Annual Conference & 4th Conference on Cyberspace Security Incidents and Vulnerabilities, held in Shiraz, Iran

Honors

2024   Winner of the Flight PS752 Commemorative Scholarship ($29000 CAD)

2023   Recipient of the Alberta Graduate Excellence Scholarship (AGES) ($12000 CAD), University of Alberta

2022   Awarded the Doctoral Recruitment Scholarship ($5000 CAD), University of Alberta

2021   **Best M.Sc. Thesis Award** at the 5th International Conference on Internet of Things and Applications

2021   3rd place in the Novel Ideas for Facing the Increase in Power Consumption and the Challenge of Power Outage event, Iran's National Elites Foundation

2020   3rd place among M.Sc. Computer Engineering students at Ferdowsi University of Mashhad

2019   **Best Paper Award** at the High Performance Computing and Big Data Analytics (TopHPC) Congress

2017   2nd place among B.Sc. Computer Engineering students at Ferdowsi University of Mashhad; directly accepted into M.Sc. program without entrance qualification exam

Languages

English: **IELTS overall band score: 7** → L(8), R(6.5), W(6), S(6.5)   Persian: Native language

Programming and Computer Skills

Python	Professional, 2018 - Present	Android	Intermediate, 2015 - 2019
Spark	Professional, 2019 - Present	Antlr	Intermediate, 2014 - 2019
Java	Professional, 2013 - Present	C++	Basic, 2014
Matlab	Intermediate, 2017 - Present		

+ Familiar with: LaTeX, Git, Docker, Linux commandline (based on LPIC1), Linux Shell Programming, Go, VHDL, Markup Languages, ARM ST Microcontrollers

Selected Teaching Experiences

2022–2023 **File and Database Management**, *Teacher Assistant*, Department of Computing Science, University of Alberta
Supervised by: Dr. Davood Rafiei

2015–2020 **The Theory of Formal Languages and Automata**, *Teacher Assistant and Project Supervisor*, Department of Computer Engineering, Ferdowsi University of Mashhad
Supervised by Dr. Abdorreza Savadi (2015-2020), Dr. Saeid Abrishami (2018,2019)

2019–2020 **Computer Networking**, *Teacher Assistant and Project Supervisor*, Department of Computer Engineering, Ferdowsi University of Mashhad
Supervised by: Eng. Farnad Ahangari

2017 **Artificial Intelligence**, *Teacher Assistant and Project Supervisor*, Department of Computer Engineering, Ferdowsi University of Mashhad
Supervised by: Dr. Ahad Harati

2016 **Fundamentals of Compiler Design**, *Teacher Assistant and Project Supervisor*, Department of Computer Engineering, Ferdowsi University of Mashhad
Supervised by: Dr. Haleh Amintoosi

2015 **Digital System Design**, *Project Supervisor*, Department of Computer Engineering, Ferdowsi University of Mashhad
Supervised by: Dr. Mariam Zomorodi Moghadam

2014 **Discrete Mathematics**, *Teacher Assistant*, Department of Computer Engineering, Ferdowsi University of Mashhad
Supervised by: Dr. Mostafa Nouri Baygi

Related Courses

- Modern Database Searches (UofA): A+
- Introduction to KDD & DM (UofA): A+
- Principles of Database Design (FUM): 19.1/20
- Data Mining (FUM): 19.5/20
- Artificial Intelligence (FUM): 19.1/20
- Distributed Systems (FUM): 18.3/20

+ Online Courses: Machine Learning (Coursera), Neural Networks and Deep Learning (Coursera), Applied Plotting, Charting & Data Representation in Python (Coursera), Build Basic GANs (Coursera)

Memberships

2022– DB Lab, Department of Computing Science, University of Alberta (Ongoing)
2019–2022 IPPBX Lab, Department of Computer Engineering, Ferdowsi University of Mashhad
2016–2019 CCL Lab, Department of Computer Engineering, Ferdowsi University of Mashhad

References

Dr. Davood Rafiei
Email: drafiei@cs.ualberta.ca

Dr. Joerg Sander
Email: jsander@ualberta.ca

Dr. Mohammad Hossein Yaghmaee Moghaddam
Emails: yaghmaee@ieee.org — hyaghmae@ferdowsi.um.ac.ir

Dr. Saeid Abrishami
Email: s-abrishami@um.ac.ir