

# 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 3<sup>rd</sup>
- 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 2<sup>nd</sup>
- 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, 5<sup>th</sup> 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, Toloee Majd, Iran
- 2020 **Decision Tree based Electricity Theft Detection in Smart Grid**, Soroush Omidvartehrani, Mohammad Hossein Yaghmaee Moghaddam, Mohsen Asadi, 4<sup>th</sup> 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, 3<sup>rd</sup> International Conference on Internet of Things and Applications, held in Isfahan, Iran
- 2018 **FUMBOT: Design, Implementation and Detection**, Soroush Omidvartehrani, Haleh Amintoosi, 9<sup>th</sup> OIC-CERT Annual Conference & 4<sup>th</sup> Conference on Cyberspace Security Incidents and Vulnerabilities, held in Shiraz, Iran

## Honors

- 2024–2025 Alberta Innovates Graduate Student Scholarship (AIGSS) (2×\$31000 CAD), University of Alberta
- 2024 Flight PS752 Commemorative Scholarship (\$29000 CAD)
- 2023 Alberta Graduate Excellence Scholarship (AGES) (\$12000 CAD), University of Alberta
- 2022 Doctoral Recruitment Scholarship (\$5000 CAD), University of Alberta
- 2021 **Best M.Sc. Thesis Award** at the 5<sup>th</sup> International Conference on Internet of Things and Applications
- 2021 3<sup>rd</sup> 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 3<sup>rd</sup> 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 2<sup>nd</sup> 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

Spark Professional, 2019 - Present

Java Professional, 2013 - Present

Matlab Intermediate, 2017 - Present

Android Intermediate, 2015 - 2019

Antlr Intermediate, 2014 - 2019

C++ Basic, 2014

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

## Selected Teaching Experiences

2022–2025 **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