

# Soroush Omidvarkehrani

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## Education

- 2022– **Ph.D. in Computer Science**, University of Alberta, Canada (Ongoing) → GPA: 4  
2017–2021 **M.Sc. in Computer Engineering**, Ferdowsi University of Mashhad, Iran → Ranked 3<sup>rd</sup>  
2013–2017 **B.Sc. in Computer Engineering**, Ferdowsi University of Mashhad, Iran → Ranked 2<sup>nd</sup>

## Research Interests

Database — Data integration — NLP

## Publications

- 2025 **WebTableX: Efficiently Discovering Web Table Transformations Through Sampling**, *Soroush Omidvarkehrani*, Arash Dargahi Nobari, Davood Rafiei, Web Conference 2025, Sydney, Australia
- 2024 **GXJoin: Generalized Cell Transformations for Explainable Joinability**, *Soroush Omidvarkehrani*, Arash Dargahi Nobari, Davood Rafiei, European Conference on Advances in Databases and Information Systems (ADBIS 2024), Bayonne, France
- 2023 **Discovering and Integrating Tabular Data**, Davood Rafiei, Arash Dargahi Nobari, *Soroush Omidvarkehrani*, Tabular Data Analysis (TaDA) Workshop @ VLDB 2023, Vancouver, Canada
- 2022 **Online Electricity Theft Detection Framework for Large-Scale Smart Grid Data**, *Soroush Omidvarkehrani*, 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 Omidvarkehrani*, Mohammad Hossein Yaghmaee Moghaddam, 5<sup>th</sup> International Conference on Internet of Things and Applications, Isfahan, Iran
- 2021 **Anomaly in Power Consumption** (in Persian), *Soroush Omidvarkehrani*, Mohammad Hossein Yaghmaee Moghaddam, ISBN: 978-622-7605-38-9, Toloo Majd, Iran
- 2020 **Decision Tree based Electricity Theft Detection in Smart Grid**, *Soroush Omidvarkehrani*, Mohammad Hossein Yaghmaee Moghaddam, Mohsen Asadi, 4<sup>th</sup> International Conference on Internet of Things and Applications, Mashhad, Iran
- 2019 **Extracting Effective Features for Descriptive Analysis of Household Energy Consumption using Smart Home Data**, Hadise Moradi, *Soroush Omidvarkehrani*, Behshid Behkamal, Haleh Amintoosi, High Performance Computing and Big Data Analytics Congress, Tehran, Iran
- 2019 **Analysis of electricity consumption in smart homes using time hierarchy** (in Persian), *Soroush Omidvarkehrani*, Hadise Moradi, Behshid Behkamal, Haleh Amintoosi, 3<sup>rd</sup> International Conference on Internet of Things and Applications, Isfahan, Iran
- 2018 **FUMBOT: Design, Implementation and Detection**, *Soroush Omidvarkehrani*, Haleh Amintoosi, 9<sup>th</sup> OIC-CERT Annual Conference & 4<sup>th</sup> Conference on Cyberspace Security Incidents and Vulnerabilities, Shiraz, Iran

## Honors

- 2024–2025 Alberta Innovates Graduate Student Scholarship (AIGSS), University of Alberta
- 2024 Flight PS752 Commemorative Scholarship
- 2023 Alberta Graduate Excellence Scholarship (AGES), University of Alberta
- 2022 Doctoral Recruitment Scholarship, 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