

Mina Aghaei Dinani

✉ mina.aghaei.dinani@gmail.com

🌐 [Mina-AghaeiDinani](#)

in [mina-a-78b9391ab](#)

🌐 [mina-aghaeidinani.github.io](#)



Experience

Work Experience

- Sep'20–Sep'24 **Research Assistant** | HES-SO Valais, Switzerland - 100%
Research area: Distributed AI, Data analysis, Data Science, Computer Science, Computer Networks, Opportunistic Communication, Machine Learning
Responsibilities:
- Designed, developed, and evaluated **distributed AI** algorithms, and **Time-Varying Graphs** focusing on dynamic setups and merging algorithms to improve scalability and performance
 - Designed an **energy-efficient distributed learning algorithm** using a **data-driven** approach, optimizing both communication and computational efficiency while pushing the boundaries of current state-of-the-art methods
 - Conducted **large-scale data analysis** by preprocessing, processing, and analyzing time series data, leveraging attention to detail to derive actionable insights and drive strategic decisions
 - **Applied Deep Learning techniques** for image recognition and trajectory prediction tasks in a distributed manner, ensuring increased system efficiency and robust privacy protection for users
 - **Mentored** over 20 students in **data science** and **computer science** courses, fostering hands-on problem-solving and critical thinking in foundational and advanced topics
 - Published and presented research at high-impact venues, contributing to the advancement of **AI, data science, and distributed systems** with innovative and detail-oriented approaches to solving complex problems;
- Sep'14–July'17 **Co-founder** | The World of Thought and Work - Isfahan, Iran - 100%
Domain: IT support, and System Administration
Responsibilities:
- **Led business strategy and planning**, defining the company's vision, growth strategies, and market positioning, contributing to long-term sustainability and expansion
 - **Managed and analyzed IT infrastructure** and hardware inventory data to identify patterns in usage and downtime, leading to strategic decisions that reduced downtime
 - **Handled budgeting and resource allocation**, ensuring cost-effective use of resources and driving financial growth for the business
 - **Used data analysis tools** to track and evaluate customer feedback and service effectiveness, leading to improved customer retention
- July'12–July'14 **Data and Network Support Specialist** | Standards & Industrial Research Institute-Isfahan, Iran - 100%
Domain: Standardization and Quality Assurance of a wide range of products
Responsibilities:
- **Managed data collection and storage**, implementing efficient methods to ensure data was organized, easily accessible, and secure.
 - **Analyzed data** to generate insights and support decision-making processes, using statistical tools and software to interpret data and present findings.
 - **Maintained network infrastructure**, performing regular maintenance and updates to ensure smooth operation
- Jan'11–June'12 **Forex Technical Analyst & Expert Advisor Developer** | ACM Company - Isfahan, Iran - 100%
Domain: Data Analysis, Algorithm Development, Financial Technology
Responsibilities:
- **Developed automated trading strategies** using financial data analysis and algorithmic models, eliminating the influence of human emotions on trading decisions to increasing trading efficiency
 - Conducted in-depth **market analysis**, identifying profitable trading opportunities by fundamental and technical data analysis, providing clients with actionable insights that enhanced their trading strategies

June'10–Dec'10 **Data Mining Software Developer** | Baharestan clinic - Isfahan, Iran - 100%
Domain: Data Mining, Data Analyst, Software Development
Responsibilities:

- Developed a **data mining solution** using the Apriori algorithm and pharmaceutical datasets, improving data analysis capabilities
- Conducted **data preprocessing and cleaning** to ensure high-quality datasets for analysis
- Collaborated with healthcare professionals to identify key data points and improve patient care outcomes

June'08–May'10 **Software Developer** | Afranik Company - Isfahan, Iran - 100%
Domain: Software Development
Responsibilities:

- Collaborated in a team to develop a warehouse management software
- Provided technical support and training to end-users, enhancing their ability to utilize the software effectively

Teaching Experience

Fall 2023 **Teaching Assistant** | HES-SO Valais - Reseaux IP course
Helped students within the lab with assignments and grading lab' reports

Fall 2022 **Teaching Assistant** | University of Foggia, Italy - Telecommunications Networks for Traceability course
Assisted the professor with lab assessment duties

2005 – 2014 **Teaching in Various Institutes and Private Tutoring**(in an hourly and occasional basis) | Isfahan, Iran
Taught coding languages, fundamental computer concepts

Internship

May'24–July'24 **Research Internship** | IMDEA Networks Institute - Madrid, Spain
Designed and developed an orchestrated gossip learning scheme with optimized model caching and distribution

Dec'19–July'20 **Machine Learning Engineering Internship** | HES-SO - Valais, Switzerland
Utilized Deep Learning (Long Short Term Memories, and Recurrent Neural Network) models to train on time series data for vehicle trajectory predictions

Education

2020 – Present PhD candidate | *Design, Develop and Performance Evaluation of Distributed Learning Algorithms in Dynamic Setups* | University of Neuchâtel, Switzerland

2017 – 2020 Master's degree | *Communications and Computer Networks Engineering* | Politecnico di Torino, Italy

2005 – 2008 Bachelor's degree | *Computer Software Engineering* | Najafabad University, Iran

2003 – 2005 Associate degree | *Computer Informatics* | Somayeh Institute, Isfahan, Iran

Skills

Programming: Python(Tensorflow, Keras, Scikit-learn, Multiprocessing, Multithreading, etc), MATLAB, YAML, Pascal, Visual Basic, Java, C++, Spade, VHDL

Data analysis: Python(Pandas, Numpy, Matplotlib, Plotly, Seaborn, Scikit-learn), Tableau, Power Query, Excel

Business Tools: Outlook, PowerPoint, GitHub

Network: Simulators: OMNeT++, SUMO, Mininet – Automation: Ansible – Cloud computing: AWS – Tools: Wireshark

DB Management: SQL, Firebase Realtime Database, Microsoft Access

Doc Creation: LaTeX, Microsoft Office (Word, PowerPoint)

OS: Windows, Ubuntu Linux

Languages: English (Proficiency), Persian (Native), French (conversational proficiency), Italian (A2)

Communication: Ability to work in a team and lead the group, negotiation skills, confidence in public speaking

Work Ethic: Hard-working, patient, determined, punctual

Presentations and Seminars

Spring 2022 HiPEAC Computer System- Tampere, Finland
Collaborative Machine Learning across IoT, Edge, Fog and Cloud Devices for Improved Privacy and Resilience

Spring 2022 COST INTERACT- Lyon, France
Intelligence-Enabling Radio Communications for Seamless Inclusive Interactions
Sep 2023 BENEFRi summer school- Jura, Switzerland
June 2023 Complex Networks and Telecommunications school- Como, Italy
Aug 2022 BENEFRi summer school- Arolla, Switzerland
Session Chair Globecom2020 SAC IoTSCC

Honors and Awards

Fall 2019 Tesi su proposta del candidate - Education Leadership Scholarship | Polito, Italy
Spring 2008 Dean's List | Recognition for 3% of students in academics | Najafabad University, Isfahan, Iran

Community Activities

2020 – Present Institute of Electrical and Electronics Engineers, IEEE | Engaged in publishing and networking
2023 – Present Association for Computing Machinery, ACM | Engaged in publishing and stayed updated
2011 – 2015 Marbin Area Tutors | Free tutoring for local women in computer basic. Dinan, Isfahan, Iran
2008 – 2009 Rebirth Charity Organization | Provide support for people struggling with addiction. Isfahan, Iran

References

Person

Prof Gianluca Rizzo
Prof Adrian Holzer
Emeritus Prof M.A Marsan
Prof Yann Bocchi

Institute

UNIFG, Italy - HES-SO
Université de Neuchâtel
Politecnico di Torino, Italy
HES-SO, Valais

Contact

gianluca.rizzo@hevs.ch
adrian.holzer@unine.ch
marco.ajmone@formerfaculty.polito.it
yann.bocchi@hevs.ch

Publications

- [1] Mina Aghaei Dinani, Adrian Holzer, Marco Ajmone Marsan, Gianluca Rizzo. *A Gossip Learning Approach to Urban Trajectory Nowcasting for Anticipatory RAN Management*. IEEE TMC, 2023.
- [2] Mina Aghaei Dinani, Adrian Holzer, Hung Nguyen, Marco Ajmone Marsan, and Gianluca Rizzo. *Context-Aware Orchestration of Energy-Efficient Gossip Learning Schemes*. IEEE AIOT, 2024.
- [3] Mina Aghaei Dinani, Antonio Di Maio, and Gianluca Rizzo. *Gossip Learning in Edge-Retentive Time-Varying Random Graphs with Node Churn*. IEEE AIOT, 2024.
- [4] Mina Aghaei Dinani, Adriann Holzer, Hung Nguyen, Gaetano Manzo, Torsten Braun, Gianluca Rizzo. *QoS-Aware Delivery of Vehicular Named Data in Fragmented Networks*. Accepted, under the second review in IEEE TMC, 2024.
- [5] Antonio Di Maio, Mina Aghaei Dinani, and Gianluca Rizzo. *The Upsides of Turbulence: Baselining Gossip Learning in Dynamic Settings*. ACM Mobihoc, 2023.
- [6] Mina Aghaei Dinani, Adrian Holzer, Hung Nguyen, Marco Ajmone Marsan, and Gianluca Rizzo. *Vehicle Position Nowcasting with Gossip Learning*. IEEE WCNC, 2022.
- [7] Mina Aghaei Dinani, Adrian Holzer, Hung Nguyen, Marco Ajmone Marsan, and Gianluca Rizzo. *Gossip Learning of Personalized Models for Vehicle Trajectory Prediction*. IEEE WCNC, 2021.
- [8] Mina Aghaei Dinani, Adrian Holzer, Hung Nguyen, Marco Ajmone Marsan, and Gianluca Rizzo. *Mobile Gossip Learning for Trajectory Prediction*. IEEE VNC, 2020.
- [9] Gianluca Rizzo, Mina Aghaei Dinani, and others. *ABIDI: A Reference Architecture for Reliable Industrial Internet of Things*. Springer, Cham AINA 2023.