

Mohammad Salimibeni

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PRINCIPAL INTERESTS

Internet of Things, Signal Processing, Reinforcement Learning, Big Data Analysis, Data Pipelines, Software Engineering, Data Engineering, Blockchain Technology, Data Mining.

ACADEMIC BACKGROUND

Ph.D - Information and System Engineering 2019-2023
Concordia University, Montreal, QC

- Ph.D. Thesis Title: BLE-based Indoor Localization and Contact Tracing Approaches, Research under the direction of Prof. Arash Mohammadi. Concentration Area: Indoor Localization and blockchain-based IoT networks data-driven tasks, Reinforcement Learning based Data Fusion

M.Sc. and B.Sc. - Electrical Engineering 2008-2014
Isfahan University of Technology (IUT), Isfahan, Iran

- M.Sc. Thesis Title: Design and Development of a Security, Safety and Access Method in IBMS.
- B.Sc. Thesis Title: Optimizing electrical energy consumption in electric arc furnace in Steel industry

Honors And Awards

- *Fonds de Recherche du Quebec - Nature et Technologies (FRQNT): Doctoral Fellowship*, 2021.
- *Mitacs Accelerate Internships Awards*, for three different companies, i.e., DormaKaba, Novatek & Agreefy, 2019-2022.
- *Parya Scholarship*, for “leadership and technical contributions”, Parya foundation, Toronto, Ont, Canada, 2020.
- *Tuition Award of Excellence*, for “International Students”, Concordia University, 2019.
- *Conference and Exposition Award*, Concordia University, 2019, 2020.
- *Certificate for volunteer Instructor*, Let’s Talk Science, Montreal, QC, Canada.
- *International Open Robocup*, Head Coach and Instructor & Winner of creativity Award, Tehran, Iran, 2015-2017.
- *Electronic Games and Sports Association Scholarship*, Winner of the Research Scholarship from “Electronic Games and Sports Association, Robotic Committee”, Tehran, Iran, 2016.

JOURNAL ARTICLES

See also my google scholar page.

6. TB-ICT: A Trustworthy Blockchain-Enabled System for Indoor Contact Tracing in Epidemic Control, with Z. HajiAkhondi, A. Mohammadi & Y. Wang, *IEEE Internet of Things*, 2023.
5. MAAKF-SR: Multi-Agent Adaptive Kalman filtering-based successor representation,, with P. Malekzadeh, K. N. Plataniotis & A. Mohammadi, *IEEE Sensors*, 2022.
4. AKF-SR: Adaptive Kalman filtering-based successor representation, with P. Malekzadeh, M. Hou, A. Mohammadi & K. N. Plataniotis, *Neurocomputing*, 2022.
3. Multiple Model Kalman Temporal Differences for Reinforcement Learning, with P. Malekzadeh, M. Hou, A. Mohammadi & K. N. Plataniotis, *IEEE Access*, 2021.
2. COVID19-HPSMP: COVID-19 Adopted Hybrid and Parallel Deep Information Fusion Framework for Stock Price Movement Prediction,, with F. Ronaghi, F. Naderkhani & A. Mohammadi, *Applied Computing & Informatics*, 2021.
1. Online Dynamic Window (ODW) Assisted Two-stage LSTM Frameworks for Indoor Localization, with M. Atashi & A. Mohammadi, *Signal Processing Systems*, 2022.

CONFERENCE ARTICLES

12. RL-IFF: Indoor Localization via Reinforcement Learning-Based Information Fusion, with A. Mohammadi, *ICASSP*, 2023.
11. Makf-Sr: Multi-Agent Adaptive Kalman Filtering-Based Successor Representations, with P. Malekzadeh, K. N. Plataniotis & A. Mohammadi, *ICASSP*, 2021.
10. IoT-TD: IoT Dataset for Multiple Model BLE-based Indoor Localization/Tracking, with Z. HajiAkhondi, P. Malekzadeh, M. Atashi, K. N. Plataniotis & A. Mohammadi, *EUSIPCO*, 2021.
9. Orientation-Matched Multiple Modeling for RSSI-based Indoor Localization via BLE Sensors, with M. Atashi, Z. HajiAkhondi, P. Malekzadeh, K. N. Plataniotis & A. Mohammadi, *EUSIPCO*, 2021.
8. Bluetooth Low Energy and CNN-Based Angle of Arrival Localization in Presence of Rayleigh Fading, with Z. HajiAkhondi, A. Mohammadi & K. N. Plataniotis, *ICASSP*, 2021.
7. Distributed Hybrid Kalman Temporal Differences for Reinforcement Learning, with P. Malekzadeh, K. N. Plataniotis & A. Mohammadi, *Asilomar*, 2020.
6. Bluetooth Low Energy-based Angle of Arrival Estimation via Switch Antenna Array for Indoor Localization, with Z. HajiAkhondi, K. N. Plataniotis & A. Mohammadi, *FUSION*, 2020.
5. Bluetooth Low Energy-based Angle of Arrival Estimation in Presence of Rayleigh Fading, with Z. HajiAkhondi, K. N. Plataniotis & A. Mohammadi, *SMC*, 2020.
4. ND-SMPF: A Noisy Deep Neural Network Fusion Framework for Stock Price Movement Prediction, with F. Ronaghi, F. Naderkhani & A. Mohammadi, *Fusion*, 2020.
3. Event-Triggered Monitoring/Communication of Inertial Measurement Unit for IoT Applications, with P. Malekzadeh, M. Atashi, M. Barbulescu, K. N. Plataniotis & A. Mohammadi, *SENSORS*, 2019.
2. Multiple Model BLE-based Tracking via Validation of RSSI Fluctuations under Different Conditions, with P. Malekzadeh, M. Atashi, M. Barbulescu, K. N. Plataniotis & A. Mohammadi, *SENSORS*, 2019.
1. Gaussian Mixture-based Indoor Localization via Bluetooth Low Energy Sensors, with P. Malekzadeh, M. Atashi, M. Barbulescu, K. N. Plataniotis & A. Mohammadi, *SENSORS*, 2019.

Teaching Experiences

- 2019-Now, Lab Member and Research Assistant, i-sip Lab, CIISE, Concordia University, Montreal, Quebec, Canada.
- 2021, Teaching Assistan, Supply Chain in Management, CIISE, Concordia Uni., Montreal, Quebec, Canada.
- 2020, Teaching Assistant, Total Quality Methodologies in Eng., CIISE, Concordia Uni., Montreal, Quebec, Canada.
- 2019-, Lab Member and Research Assistant, Total Quality Methodologies in Engineering, CIISE, Concordia Uni., Montreal, Quebec, Canada.
- 2012-2014, Research Assistant, School of Electrical and Computer Eng., Isfahan Uni. of Tech. (IUT), Isfahan, Iran.
- 2014, Teaching Assistant, Power Electronic I and Power Electronic II, Department of Electrical Engineering., Isfahan Uni. of Technology.
- 2013, Teaching Assistant, C Programming, Department of Electrical Engineering., Isfahan Uni. of Technology.
- 2012, Teaching Assistant, Power Electronic I, Department of Electrical Engineering., Isfahan Uni. of Technology.
- 2015, Lecturer New Methods in Designing Robots, GoldKids Academy, Tehran, Iran

WORK Experiences

- **Cisco**
Senior Data Engineer, Remote, US, 05/2022 - now
 - **Description:** Developing and maintaining data pipelines with Apache Airflow and utilizing GCP technologies for scalable data engineering solutions, Utilizing various GCP technologies, including GKE, Cloud Composer, Dataflow, Google Cloud Storage (GCS), Dataproc, Pub/Sub, Cloud Functions, and Cloud Run for robust and scalable data engineering solutions, Implementing CircleCI for CI/CD pipelines and Terraform for automated deployment, streamlining development and deployment processes, Monitoring cloud logs and performance with Datadog to ensure system stability and reliability, Ensuring data quality, integrity, and security by following best practices and implementing validation and transformation processes, Continuously updating technical skills, proposing data engineering solutions, and staying current with industry trends., Collaborating with cross-functional teams, participating in code reviews, and promoting a culture of high-quality software development, Troubleshooting data processing and pipeline issues, optimizing infrastructure capacity planning and performance.
- **WatchMojo**
Data Engineer, Montreal, Canada, 02/2021 - 08-2022
 - **Description:** Mapped source system data (Snapchat, Facebook & YouTube) to data warehouse models, Developing and testing ETL processes, Creating data pipelines using Airflow and Google BigQuery to demonstrate key insights of channels on company web UI, Working with different data sources, data ingestion from Snapchat & Facebook graph API to BigQuery data warehouse for further analysis, Building ML models for different channels insights, Formulating KPIs for channel managers to compare the performance, Performing Ad-hoc analyses using SQL & python & creating dynamic dashboards leveraging Google Data Studio and Tableau, Creating an auto-incrementing pipeline to transfer data from BigQuery to google datasheets and create revenue dashboard in Data Studio.
- **Agreefy - Mitacs Accelerate Industrial Project**
Data/Software Engineer, Montreal, Canada, 04/2022 - 08/2022
 - **Description:** Applying different signal Processing algorithms to provide AoA-based indoor localization services and designing an application to provide real-time data.
- **Novatek International - Mitacs Accelerate Industrial Project**
Data/Software Engineer, Montreal, Canada, 09/2020 - 09-2021
 - **Description:** Design/implement a Dockerized ML-based wizard to interact with patients and provide a set of services to users at scale. Implemented A dockerized stand-alone chatbot that mounts specific volume drivers from the local system running the application. Database design and flask-based application implementation and containerizing whole project to provide the service to the end-users.
- **Dormakaba - Mitacs Accelerate Industrial Project**
Software EngineerMontreal, Canada, 05/2019 - 12/2020
 - **Description:** Designed and implemented different data pipelines for large-scale real-time cellphone Bluetooth low energy sensory signals, from extracting raw data, transforming, and loading to providing real-time indoor localization services and CNN-based location estimation.
- **BitUniEx Company**
Entrepreneur and Co-Founder, Yerevan, Armenia Co-Founder - CTO2018 - 2019
 - **Co-Founder:** I worked as a technical cofounder of this early-stage startup that provided engineering services to design and develop blockchain services and applications.
- **CNILI Company**
Senior Software Engineer, Tehran, IRAN, 2014 - 2018
 - **Head Technical Manager:** designing different software and cloud-based applications, providing technical services and different fields and use-cases including web programming and robotics.

Skills

- Technical Skills: Python, Golang, SQL/NoSQL, Postgresql, MongoDB, Airflow, Docker and Kubernetes, CI/CD, Circleci, Git, Terraform, Linux, Microservices, Blockchain, AWS, GCP, Snowflake, ETL/ELT, Apache Spark (Pyspark/MLOps), data visualization, Datadog, Tableau, Data Studio, Machine learning, Reinforcement Learning, Algorithms, Data Structure, familiar with Kafka, familiar with HTML/CSS/JS
- Soft Skills: Leadership, Recruiting, Mentoring, Strategic Thinking, Problem Solving, Communication, Creative Direction, Project Planning, Project Management, Software Architecture, Clean Code, Database Design, Agile, Scrum.