

Sara Ghaemi

Toronto, ON

✉ ghaemi.sr@gmail.com • 🌐 sara-dev.com • 🔄 ghaemisr • 🌐 sara-ghaemi

Education

MSc in Software Engineering and Intelligent Systems **Sep 2018–Dec 2020**
University of Alberta, Edmonton, Canada

- Received the C.R. James Award for Best Master of Science Thesis in the ECE Department for Spring 2021.

BSc in Electrical Engineering, Electronics **Sep 2013–Apr 2018**
Amirkabir University of Technology, Tehran, Iran

Experience

L4 Senior Software Developer **May 2024–Present**
TELUS, Toronto, Canada

- Led the design, architecture, and development of Fuel iX, collaborating closely with the project stakeholders.
- Served as a technical lead for a team of 25 developers, overseeing the architecture and development of Fuel iX.
- Scaled the platform to support more than 35k daily active users, 3k unique bots, and more than 100k messages per day.
- Developed the TELUS IT support bot using LLMs, automating resolution for 46% of employee support tickets.
- Integrated an LLM proxy to enable seamless integration with 50+ LLMs supporting load-balancing, fallback, and retries.
- Represented TELUS in various conferences and events, including the TMLS 2024 where I presented Fuel iX.
- Tools & technologies: Node.js, React, TypeScript, Docker, Kubernetes, GCP, Azure, Firebase, LLMs, Vector DBs.

L3 Software Developer **Sep 2023–May 2024**
TELUS, Toronto, Canada

- Developed TELUS's first ever GenAI bot in Slack used daily by 15k+ users across multiple business units.
- Built a RAG pipeline to ingest, embed, and retrieve relevant internal documents, enhancing the bot's response accuracy.
- Developed an API for agentic RAG-based GenAI assistants, enabling integration across web, Slack, and GChat platforms.
- Led TELUS's research and development in the field of GenAI and LLM integration with TELUS's core products.
- Implemented an insights dashboard for TELUS's Cloud Center of Excellence (CCoE) support Slack channel.
- Tools & technologies: Python, Docker, Kubernetes, GCP, LLMs, Vector DBs, BigQuery.

L2 Software Developer **Nov 2022–Sep 2023**
TELUS, Toronto, Canada

- Built an API that maps TELUS users to their GitHub identities impacting 6k employees, consumed by 15 other services.
- Contributed to developer satisfaction tools as a member of the engineering productivity team.
- Developed a Slack bot based on the SPACE framework, enabling developers to track and reflect on their productivity.
- The bot provides personalized, private insights into daily work habits, enhancing developer satisfaction.
- Tools & technologies: Node.js, Python, Docker, Kubernetes, GitHub Actions, GitHub and Slack APIs.

Technology Specialist (Full-Stack Developer) - GTLP **Jan 2021–Nov 2022**
TELUS, Toronto, Canada

- Led a team of 14 developers to design, develop, and maintain the GTLP internal site, improving program communication.
- Directed TELUS's blockchain efforts for identity management, collaborating with the Digital ID and Authentication Council of Canada (DIACC).
- Developed web applications for network engineers, enhancing efficiency in managing network infrastructure.
- Tools & technologies: Python, Node.js, GitLab, Docker, OpenShift, GCP, Blockchain, Hyperledger Indy.

Research Assistant and Teaching Assistant**Aug 2019–Dec 2020***York University, Toronto, Canada*

- Researched the application of blockchain technology in serverless computing.
- Designed, implemented, and evaluated ChainFaaS, an open blockchain-based serverless platform.
- Developed ChainFaaS using a microservices architecture, integrating a web application for seamless integration.
- Implemented smart contracts for Hyperledger Fabric to manage system monitoring and billing.
- Supervised 40 students in Java programming tasks as a teaching assistant.
- Tools & technologies: Python, Node.js, Java, Django, Docker, Hyperledger Fabric.

Blockchain Intern**Jun 2020–Nov 2020***The Linux Foundation, Toronto, Canada*

- Chosen as one of 18 participants for the 2020 Hyperledger mentorship program.
- Developed an interoperability solution for permissioned blockchains using a publish/subscribe architecture.
- Contributed to open-source projects within the Hyperledger community.

Coding Instructor**Dec 2019–May 2020***Alpha Coding Inc., Toronto, Canada*

- Taught Python and Robotics to students aged 7–20, developing curricula for beginner to advanced classes.

Research Assistant and Teaching Assistant**Sep 2018–Aug 2019***University of Alberta, Edmonton, Canada*

- Analyzed the performance of DAG-based distributed ledger technologies (DLT), with a focus on IOTA.
- Simulated a private IOTA network to identify key performance metrics for comparing these DLTs.
- Supervised 60 students in programming NXP ColdFire microprocessors using assembly as a teaching assistant.

Research Assistant and Teaching Assistant**May 2014–Feb 2018***Amirkabir University of Technology, Tehran, Iran*

- Developed computer vision programs for localization and object detection in quadcopter and UGV robots
- Collaborated with a team of 10 to integrate computer vision programs into robotic systems.
- Taught Python programming to 25 undergraduate students as a teaching assistant.

Technical Skills

Programming Languages and Frameworks: Node.js, Python, React, Express.js, Django, C/C++, Java**Tools and Technologies:** Git, Docker, Kubernetes, GitHub Actions, GCP, Firebase, SQL and NoSQL DBs

Public Talks and Interviews

Fuel iX, an enterprise-grade Gen AI platform**Jul 2024***Toronto Machine Learning Summit (TMLs)**Toronto, Canada*

- Presented how TELUS enabled GenAI through Fuel iX to get the most value out of the latest advancements of AI, while ensuring flexibility, control, privacy, trust and joy.

Empowering Women in Tech: Insights from TELUS Women in Engineering**Mar 2024***National Engineering Month Ontario**Toronto, Canada*

- Discussed the importance of diverse perspectives for innovation, the role of AI in the industry, and the need for adaptability in our fast-evolving field.

A Pub-Sub Architecture to Promote Blockchain Interoperability**Jun 2021***Hyperledger Global Forum**Toronto, Canada*

- Presented the existing problems in blockchain interoperability and how a pub-sub architecture can be used to solve them.

Developer Showcase Series: Sara Ghaemi, TELUS*Hyperledger Foundation***Apr 2021***Toronto, Canada*

- Discussed the Hyperledger ecosystem and how it can impact the future of blockchain technology.

Awards and Honors

TELUS SE&I Rising Star Award*TELUS***Sep 2022***Toronto, Canada*

- Recognized as a rising star in the SE&I department by TELUS for outstanding leadership in the field of software engineering.

C.R. James Award for Best Master of Science Thesis*University of Alberta***Jun 2021***Edmonton, Canada*

- Received the C.R. James Award for Best Master of Science Thesis in the ECE Department for Spring 2021.

IEEE Student Branch Excellence Award*IEEE Iran Section***May 2016***Shiraz, Iran*

- Received this award from IEEE Iran Section while responsible for IEEE Amirkabir University Student Branch.

University Entrance Exam Exemption*Amirkabir University of Technology***Sep 2013***Tehran, Iran*

- Admitted to the BSc program without participating in the university entrance exam due to international achievements in robotics competitions.

Best Robot Performance and 3rd Place Award for Junior Soccer Robot*Junior Soccer League at Robocup International Competition***Jul 2011***Istanbul, Turkey*

- Worked in a team of 4 to develop junior soccer robots which received two major awards in Robocup international competitions.

Publications

- S. Ghaemi, H. Khazaei and P. Musilek, "ChainFaaS: An Open Blockchain-Based Serverless Platform," in *IEEE Access*, vol. 8, pp. 131760-131778, 2020, doi: 10.1109/ACCESS.2020.3010119.
- C. Fan, S. Ghaemi, H. Khazaei and P. Musilek, "Performance Evaluation of Blockchain Systems: A Systematic Survey," in *IEEE Access*, vol. 8, pp. 126927-126950, 2020, doi: 10.1109/ACCESS.2020.3006078.
- C. Fan, S. Ghaemi, H. Khazaei, Y. Chen, and P. Musilek, "Performance Analysis of the IOTA DAG-Based Distributed Ledger," in *ACM Transactions on Modeling and Performance Evaluation of Computing Systems* 6, no. 3, pp. 1-20, 2021, doi: 10.1145/3485188
- S. Ghaemi, S. Rouhani, R. Belchior, R. S. Cruz, H. Khazaei, and P. Musilek, "A Pub-Sub Architecture to Promote Blockchain Interoperability," in *arXiv preprint*, 2021 arXiv:2101.12331.