

Soroush Baghernezhad

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WORK EXPERIENCE

Embedded Software Engineer Intern

NDITIVE

St. John's, NL

September 2025 – December 2025

- Trained efficient time-series **anomaly detection** models and optimized them through **quantization**, reducing model size and inference latency while maintaining high detection accuracy.
- Optimized and deployed a neural network on a low-power **embedded platform** using C/C++, enabling real-time on-device inference.

Teaching Assistant

MUN

St. John's, NL

Fall 2024 – Winter 2024

- TA for COMP1001 (Introduction to programming with python) and COMP2003 (Computer Architecture) courses.

Data Scientist

Huma

Mashhad, Iran

Oct 2023 – April 2024

- Developed a Persian voice assistant (“Dana”) for TV manufacturers by building an end-to-end voice interaction pipeline integrating **ASR**, **NLP**, **LLMs**, **intent classification**, and **TTS** to convert user speech into executable commands and generate natural spoken responses.

Data Scientist Intern

Amoot Holding

Mashhad, Iran

Summer 2023

- Implemented an end-to-end pipeline for extreme multi-class text classification (XMC) to label trading commodities, leveraging **LLMs and Transformer architectures**, improving classification accuracy and reducing manual annotation effort.

Software Engineer

Part Software Group

Mashhad, Iran

July 2021 – Aug 2022

- Designed robust, **test-driven** applications with over 160,000 active users using **Kotlin**, **clean architecture**, and **design patterns**, while **mentoring** new team members and leading daily Scrum sessions to ensure efficient collaboration and high-quality delivery.

SKILLS

Programming: Java & Kotlin, Python, C, C++, SQL, LATEX

Web Development: Django, java Spring, HTML, CSS.

Android Development: Kotlin, Java OOP, Hilt, Room Coroutines, Flow, Worker, Service, Gradle, Compose, Navigation, Paging, Firebase, widgets, SOLID Principles, Design Patterns

AI Development: Pytorch, Tensorflow, Tf-lite, Transformers, Keras, Scikit-Learn, Numpy, Pandas, Matplotlib, OpenCV

Hardware development Zephyr, West, FPGA, RTOS, STM32, Arduino, Raspberry Pi, Jetson Nano, esp32, nRF series

Testing: Unit test, Integration test, end-to-end tests

Deployment: Docker - CI/CD - Git flow, Git

EDUCATION

Memorial University St John's, NL
M.Sc. in Computer Science (thesis); GPA: 4.00 May 2024 – Now

Ferdowsi University of Mashhad Mashhad, Iran
B.Sc. in Computer Engineering; GPA: 3.63 Sep 2018 – July 2023

RESEARCH EXPERIENCE

Graduate Research Assistant MUN
Prosthetic Hand Control May 2024 – Now

- Working on sensor-based prosthetic-hand control at the UCML Lab under the co-supervision of Dr. Xianta Jiang and Dr. Vinicius Prado da Fonseca.

Undergraduate Research Assistant FUM
Reinforcement Learning Jun 2022 – July 2023

- Implemented DreamerV2 (model-based off-policy RL) on MinAtar, enabling sample-efficient training with lower computational overhead, supervised by Dr. Ahad Harati.

PUBLICATIONS

A Comparative Study of EMG- and IMU-based Gesture Recognition Oct' 2025
S. Baghernezhad, E. Mohammadreza, V. P. da Fonseca, T. Zou, X. Jiang arXiv:2512.07997

REFERENCES

References will be available upon request.