

MAHDI MOEINI

St. John's, NL, Canada (Willing to relocate)

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SUMMARY

Passionate Computer Engineer with a Master's degree from Memorial University of Newfoundland and two years of software development experience. Skilled in Python, Java, ML, Data Science, and AWS (Certified). Eager to use my knowledge and skills in a professional environment to contribute to both personal and company growth.

SKILLS

- **Programming Languages:** Python, Java, C++, MATLAB, SQL, Bash
- **AI/ML:** NumPy, Pandas, Matplotlib, Scikit-learn, TensorFlow, PyTorch, Deep Learning, Neural Networks, CNNs, RNNs, Computer Vision
- **Data Manipulation & Analysis:** Proficient in Identifying trends, patterns, and anomalies in data and visualize them, skilled in data exploration and data preprocessing, knowledgeable in the ETL process
- **Statistical Analysis:** Skilled in Hypothesis testing; parametric and non-parametric tests
- **Databases:** Relational (MySQL, PostgreSQL), NoSQL (MongoDB)
- **Technologies:** Spring Boot, JPA, Hibernate, JWT, Maven, Skilled in Web Scrapping (Selenium)
- **Architectural patterns:** Skilled in Monolithic, Microservice, and MVC design, Familiar with MVT
- **APIs:** Skilled in working with RESTful APIs for data extraction and integration
- **Cloud Platforms:** Familiar with AWS (Amazon Web Services) (Certified), EC2, S3, lambda
- **Terminologies & Version Control:** Strong understanding of SOLID, Object-Oriented Programming (OOP), dependency injection and inversion, Agile, and CI/CD principles, Expert in Git
- **Soft Skills:** Proven ability to work effectively in cross-functional teams, Analytical Problem-Solving with a structured approach, Efficient in prioritizing tasks and meeting deadlines

WORK EXPERIENCE

Computer Engineering Research Assistant, *Memorial University of Newfoundland*

Sept 2022 – Dec 2024

- Designed a Brain-Computer Interface (BCI) experiment to collect EEG time-series data from 15 healthy participants, investigating prolonged imagination of body part movement and its potential benefits for people with movement disabilities
- Achieved 80% classification accuracy for motor imagery tasks vs. rest, demonstrating the potential for continuous wheelchair control through imagined movements
- Utilized MATLAB, NumPy, and Pandas for data extraction, transformation, and cleaning, and techniques like CSP and PCA for feature extraction, and mRMR for feature reduction purposes
- Employed Python, Scikit-Learn, and machine learning techniques such as XGBoost, LDA, and SVM to classify motor imagery tasks vs. rest in EEG data
- Used Compute Canada as a high-performance computing cloud system to run the pipeline

Software Developer, Toranj Innovation Technologies

May 2021 – June 2022

- Collaborated with the backend team to develop a web platform for health insurance companies, serving 9000+ customers, managing financial tasks such as claims processing
- Developed and debugged scalable and fault-tolerant microservices using Java, following the MVC architectural pattern and Spring Boot framework
- Implemented REST APIs for User Acceptance Tests, and connected them to the FitNesse framework

Software Developer, Hoom Co

Apr 2020 – Mar 2021

- Collaborated with the development team to implement a smart door locker using IoT protocols such as MQTT and BLE on ARM microcontrollers with C and C++, serving 2,000 customers
- Designed and coded an IoT hub to process client commands via BLE (e.g., turning off lights or playing music) and communicate these commands to the respective devices using MQTT

PROJECTS

- **Web Scraping Project**: Implemented Python-based web scraping with Selenium to automate grade entry, feedback generation, and class list extraction on the mark-entry web platform of Memorial University, reducing manual data entry time by 75%
- **Adaptive IIR Filter**: Implemented an Adaptive IIR filter with MATLAB for frequency estimation and tracking in a complex harmonic environment
- **Mini-Marketplace**: Implemented the back-end side of a mini online shop with Spring Boot, JPA, and JWT in a monolithic and microservice architecture that can handle 1000 customers
- **Fundamental Image Filters and Resizer**: Implemented fundamental computer vision image filters and resizers (Bilateral, Gaussian, Box filter, Nearest Neighbor up/down sampler) from scratch with Python and NumPy and also Numba, resulting in a remarkable 50% increase in processing speed

EDUCATION

Master of Computer Engineering (Thesis-Based), *Memorial University of Newfoundland*

Sept 2022 – Dec 2024

Bachelor of Electrical Engineering, *Iran University of Science and Technology*

Sept 2017 – Sept 2022

CERTIFICATIONS

- Amazon Web Services (AWS) Cloud Practitioner

HONORS AND AWARDS

- School of Graduate Studies Fellowship from Memorial University of Newfoundland