MAHDI MOEINI

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WORK EXPERIENCE

AI/ML Researcher, *Memorial University of Newfoundland*   **Sep 2022 – Sep 2024**

- Explored the possibility of controlling a wheelchair through "singing imagination" by designing a Brain-Computer Interface (BCI) experiment to collect Electroencephalography (EEG) time-series datasets from 15 participants
- Achieved 85% accuracy in classifying EEG signals using various deep learning and machine learning models (CNNs, RNNs, SVM, XGBoost), and provided insights into model performance through statistical analysis
- Enhanced the data quality and labeling system by building a data preprocessing pipeline using MATLAB & Python
- Boosted the classification accuracy by 8% using efficient feature extraction & optimization methods (CSP, mRMR)
- Improved the data analysis speed by 50% via building an automated pipeline on Compute Canada Cloud (Code)

SKILLS: Python, R, NumPy, Pandas, Scikit-learn, PyTorch, TensorFlow, Matplotlib, Seaborn, EDA, Cloud (AWS)

Software Developer, *Toranj Innovation Technologies*   **May 2021 – Jun 2022**

A health tech company concentrated on creating software solutions for the healthcare industry.

- Increased the customer base by 20 % by expanding system scalability through developing secure Java microservices
- Doubled the speed of User Acceptance Testing process by implementing RESTful APIs integrated with FitNesse
- Eliminated the need for direct SQL queries by utilizing Object-Relational Mapping (ORM) systems like JPA
- Contributed to software development in a CI/CD environment by utilizing Git for version control

SKILLS: Java, Spring Boot, JPA, SQL, PostgreSQL, ETL, Git, Microservice Architecture, MVC Pattern

Software Developer, *Hoom Co.*   **Apr 2020 – Mar 2021**

A smart home technology company focused on developing IoT solutions for home automation.

- Enhanced the smart home functionality, and drove a 60% increase in sales by collaborating with cross-functional teams to develop an IoT Hub similar to Amazon Alexa using C and C++
- Boosted the communication speed between the Hub and smart devices by 25% by replacing HTTP with MQTT
- Delivered incremental software releases as part of a Scrum team, aligning with Agile best practices

SKILLS: C, C++, Bash, Linux, Git

PROJECTS

- **Web Scrapper**: Reduced the manual data entry time by 75% by developing a Python-based web scraping script with Selenium library to automate TAs' tasks, such as grade entry, on the Memorial University web platform
- **Fundamental Image Filters**: Guided beginners in understanding fundamental image filters by providing detailed documentation on how the filters work and how to build them from scratch using Python & OpenCV

EDUCATION

- **Master's Degree - Computer Engineering,** *Memorial University of Newfoundland*   **Sep 2022 – Sep 2024**
- **Bachelor's Degree - Electrical Engineering,** *Iran University of Science and Technology*   **Sep 2017 – May 2022**

CERTIFICATIONS & SKILLS

- **Certifications:** AWS Certified Cloud Practitioner, Coursera Machine Learning Specialization
- **Programming Languages**: Python, Java, C, C++, MATLAB, SQL, R
- **Industry Skills**: Data Science, Data Visualization, Statistics, Machine Learning, Deep Learning, Big Data (Hadoop, Spark), Object-Oriented Programming (OOP), AWS (EC2, S3, Lambda)