MAHDI MOEINI

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WORK EXPERIENCE

AI/ML Researcher, *Memorial University of Newfoundland, St. John's, Canada* **Sep 2022 – Oct 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 90% accuracy in classifying EEG signals using various deep learning (CNNs, RNNs) and classic machine learning (SVM, XGBoost) models and provided insights into model performance through statistical analysis by R
- Enhanced data quality and the labeling system by building a data preprocessing pipeline using MATLAB & Python
- Boosted classification accuracy by 8% using efficient feature extraction & optimization methods (CSP, mRMR)
- Improved 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, AWS*

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

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

- Elevated total revenue by 10% by building BI dashboards integrated with ETL processes using Power BI and Tableau
- Increased the customer base by 20 % by expanding system scalability through developing fault-tolerant Java microservices
- Eliminated the need for direct SQL queries by utilizing Object-Relational Mapping (ORM) systems
- Contributed to software development in a CI/CD environment by utilizing Git for version control

   SKILLS: *Java, Database (PostgreSQL, MongoDB), Power BI, Tableau, ETL, Docker, Microservice Architecture*

Software Developer, *Hoom Co, Tehran, Iran* **Apr 2020 – Mar 2021**

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

- Enhanced 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 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, Object-Oriented Programming (OOP)*

PROJECTS

Medical FAQ Bot: A conversational AI tool that answers medical questions. **Oct 2024**
- Enhanced accessibility to medical data by developing an end-to-end chatbot using OpenAI's API, hosted on AWS EC2
- Utilized FastAPI for request handling, NLTK for query preprocessing, and LangChain for conversational flow

BI-Dashboard: A business intelligence dashboard that provides visual insights into a supermarket's sales. **Sep 2024**
- Expanded business insights by developing an interactive Power BI and Tableau business intelligence dashboard with ETL integration for sales analysis from a SQL-based sales database

EDUCATION

- **Master's Degree - Computer Engineering,** *Memorial University of Newfoundland* **Sep 2022 – Oct 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, Data Analytics, Statistics, Machine Learning, Deep Learning, Big Data (Hadoop, Spark), Business Intelligence, NLP, Databases (Relational, Non-Relational), Cloud Computing (AWS, Azure)