Full Stack Machine Learning Software Engineer
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Mohammad Hadi Rouhani

HIGHLIGHTS

- Accomplished software engineer with a robust background in machine learning and data science, delivering innovative solutions for industry challenges.
- Spearheaded the creation and development of industry-leading solutions, crafting full-stack web applications and pioneering machine learning proof of concept projects.
- Proficient in the art of data storytelling through powerful visualizations, unlocking valuable insights from complex data.
- Collaborative team player, working seamlessly with diverse stakeholders, including business owners, project managers, and product owners, to deliver high-impact software and cutting-edge machine learning products.
- Distinguished expertise in architecting modular and reproducible software products, harnessing over three years of mastery in TypeScript, JavaScript, HTML, C, Python, R, and an array of programming languages.

EDUCATION

M.Sc. in Computer Science	Sep 2020 — June 2023
🛡 *University of Alberta*	*Edmonton-Canada*
M.Sc. in Electrical Engineering	Sep 2016 — Sep 2019
🛡 *University of Alberta*	*Edmonton-Canada*
B.Sc. (with Honors - 2nd top) in Electrical Engineering	Sep 2009 — Sep 2013
🌳 *Shiraz University*	*Shiraz-Iran*

WORK EXPERIENCE

○ 🟢 *PCL - Industrial District Business Technology*   Feb 2023 - present

Intermediate Software Developer [Permanent Full-time]
- Pioneered the development of the first-ever web-based kiosk for an industrial fabrication facility, utilizing Angular (frontend), ASP .NET Core Web API (backend), Windows Communication Foundation (WCF) services, and MS SQL on both on-premise and Azure platforms. Implemented CI/CD pipelines using Azure DevOps, enabling the hosting of machine learning containers and live data streaming for data science dashboards, resulting in substantial cost savings and enhanced industrial work performance
- Proficient in building robust and secure web APIs with extensive experience in Node.js and ASP.NET, ensuring seamless integration across complex systems
- Proven leadership as a project lead, guiding cross-functional teams to deliver high-quality software solutions on time and within budget
- Skilled in a range of frameworks and languages including ASP.NET, C#, JavaScript, Vb.NET, .NET Frameworks, HTML, CSS, and TypeScript

○ 🔷 *AltaML*   Sep 2022 - Feb 2023

GovLab AI - Associate Machine Learning Developer [Full-time]
- Developed machine learning solutions for the Government of Alberta, achieving significant cost savings by automating permit document screening and authentication.
- Led agile teams, ensuring weekly sprint planning and mentoring data scientist residents in Git and GitHub, fostering collaborative and efficient workflows.
- Spearheaded responsible AI practices and established ethical guidelines, elevating organizational coding standards and demonstrating a commitment to ethical AI development.
- Designed and delivered a full-stack software product for document screening automation, resulting in millions of dollars in annual cost reductions through streamlined processing.

○ 🔴 *Alberta Machine Intelligence Institute (Amii)*

Machine Learning Curriculum Manager [AI4Good Lab] [Full-time]   Apr 2022 - Aug 2022
- Worked as a member of the executive team develop the syllabus for the lab and communicate with lecturers
- Helped organize a 7-week intensive workshop with more than 100 participants, teaching assistants, lecturers, guest speakers, industry mentors, etc.
- Trained talented students/participants to become the future ML startup founders
- Organized an internal Hackathon that tailored students' abilities with data science principles

Machine Learning Facillitator [Contract Part-time]   Jul 2022 - Nov 2022
- Supported and supervised Amii's Education team on delivering workshop on AI ethics and governance.
- Worked seamlessly with the team to deliver high quality workshops for Amii's clients and partners

○ *Freelance Data Scientist*   Jan 2022 - present

- Provided machine learning solutions and consulting expertise to diverse industries, including oil & gas, global climate change, and healthcare.
- Presented as a speaker at prominent tech meetups, including PyYYC, PyData Calgary, and EdmontonPy, demonstrating thought leadership in the field of machine learning [**YouTube**]   May 2022.

List of selected projects
- **Continuous Integration ML Deployment (ML-Ops) [Python Code]**   Feb 2022
- **Pharmaceutical Drug review - [Python Code]**   Jan 2022
- **Sizing of Charging Stations Co-located with Solar Panel and Battery Storage**   Oct 2021
- **Rooftop solar panel sizing detection using deep learning - (APIC) 2021 Hackathon**   Jun 2021
- **Simulator for queueing systems [Python Code]**   Mar 2021
- **Economic assessment of electric vehicle integration into Alberta transportation system (ATCO)** Oct 2021

○ *University of Alberta*   Sep 2020 - May 2022

Python Teaching Assistant [Full-time]   Sep 2020 - Dec 2020
- Collaborated with a team of TAs to help 2nd-year students with their learning on Python.
- Provided solutions to the assignments and marked over 200 Python coding assignments.
- A continuous work integration in Git.

Computer Science Researcher & Software Developer   Jan 2021 - April 2022
- Conducted research in innovative topics (toward my MSc thesis on Robust Sizing of Charging Stations in Alberta Transportation System)
- Built a software product from scratch that analyzes the traffic flow at a certain location to provide sizing suggestions for charging station

○ *University of Stuttgart, Stuttgart, Germany*   Dec 2019 - Jul 2020

Data Scientist
- Led a team of data science MSc students on economic assessment of German electricity market to adopt electric vehicles
- Participated in MSc thesis defense as an examiner and supervised a number of MSc students

Skills

Coding / MLOps	C/C++/C#, Python (scikit-learn, pytorch, tensorflow, pandas, spark, etc.), Git, Linux, Cloud computing platforms (Google Cloud, AWS, Azure), MS SQL, MySQL
Frameworks & Languages	Angular, ASP .NET Core, Node JS, JavaScript, HTML, CSS, React
Quantitative	Algorithms and Optimization, Advanced Math & Probability, Data structures, Machine Learning, Economic & Statistics
Communication	English (fluent), Persian (fluent-native), German (intermediate)