Arash Sadeghi Amjadi

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Highlights

- Demonstrated proficiency in designing, developing, and deploying machine learning models using TensorFlow, PyTorch, and scikit-learn to solve complex problems in both academic and industrial settings.
- Extensive experience in real-world projects, including AI-driven music generation, utilizing data preprocessing, feature engineering, and model optimization to enhance performance and scalability.
- Proven ability to work effectively in collaborative environments, including with startup teams, handling ambiguous requirements, and delivering AI solutions aligned with business goals.
- Skilled in presenting technical findings to both technical and non-technical stakeholders, ensuring transparency and alignment with project objectives.

TECHNICAL SKILLS

- **Programming Languages:** Java, C/C++, C#, Python, JavaScript.
- **Artificial Inteligence:** PyTorch, TensorFlow, HuggingFace, Large Language Models (BERT, GPT), Generative Adversarial Networks, Data Mining, AWS Sagemaker, LangChain, LangGraph, LangSmith, Retrieval-Augmented Generation.
- **Web Development:** Typescript, HTML, CSS, ReactJS, MySQL, MongoDB, PineCone, NodeJS (Express.js), Deno, Flask.
- **Software Engineering:** AWS (Certified Cloud Practitioner), Azure, Google Cloud Platform, Git/GitHub, Docker, linux OS, CI/CD with Github Actions, GCP CloudBuild, AWS PipeLine.

EDUCATION

Memorial University of Newfoundland — **St. John's, NL, Canada**
- MSc in Computer Science — *January 2023 - May 2025*
- CGPA: 4/4, Fully funded by MUN and Computer Science and Music department.

Middle East Technical University — **Ankara, Turkey**
- MSc in Mechanical Engineering — *September 2019 - September 2021*
- Awarded a full scholarship for my academic excellence.

University of Tabriz — **Tabriz, Iran**
- BSc in Electrical Engineering — *September 2015 - June 2019*
- Directly admitted to the MSc program due to my outstanding BSc grades.

PROFESSIONAL EXPERIENCE

Genesis Center — **St. John's, Canada**
Artificial Engineer (Full-time, permanent) — *May 2025 – Present*
- Architected and implemented a citation extraction pipeline for legal documents by fine tuning BERT and integrating state of the art large language models, delivering robust, high precision results.

NutraForge — **St. John's, Canada**
Artificial Engineer (Full-time, short-term) — *January 2025 – May 2025*
- Architected and implemented a scalable AI backend using Deno, MongoDB, and LangChain, deployed on Google Cloud Platform to support real time data processing.
- Designed and launched a Retrieval Augmented Generation (RAG) application that delivers context aware, precision AI responses.
- Engineered and coordinated multi agent autonomous AI workflows, improving customer interaction quality and driving a 80% increase in user satisfaction.

GoodAI **Prague, Czech Republic**
Full Stack Software Developer *August 2022–January 2023*

- Developed and implemented a user-friendly ground station control software using React.js, enhancing drone control efficiency.
- Integrated object detection and tracking algorithms into drone systems using deep learning and computer vision techniques (PyTorch, TensorFlow), improving target recognition accuracy.
- Designed and deployed RESTful APIs using C# and .NET, facilitating seamless communication between drones and ground control stations during missions.

Czech Technical University **Prague, Czech Republic**
Software Developer and Researcher *August 2021– August 2022*

- Led the development of advanced computer vision and deep learning systems for the Roboroyale project, enabling precise object detection and tracking in complex environments.
- Developed and maintained robotic software codebases using C++ and Python, optimizing performance and reliability.
- Implemented navigation algorithms using computer vision and machine learning techniques, enhancing autonomous robot navigation efficiency.

PROJECTS

Music Generation with Generative AI *January 2023–February 2024*

- Developed an AI model for real-time music generation using Generative Adversarial Networks and Large Language Models (PyTorch, HuggingFace), providing dynamic accompaniment for musicians.
- Deployed the AI model as a containerized web application using Docker on Azure and AWS, implementing CI/CD pipelines for automated deployment and scaling.
- Architected and implemented the full-stack web application including backend (Python, Flask), RESTful APIs (SocketIO), and frontend (ReactJS, CSS), enhancing user experience and engagement.
- Explored potential for commercialization, envisioning the software as a versatile tool for both AI enthusiasts and professional musicians, with scalability to benefit music creators in a wide range of genres and settings.

Web Development for SwarmJS *June 2023–September 2023*

- Integrated the ReactJS frontend with external simulation engines such as Python via WebSockets.
- Developed Flask based backend to enable the utilization of deep learning capabilities.

Publishing Journals and Conferences in AI and Robotics *January 2019–July 2024*

- Published papers in robotics and AI, focusing on robot navigation, computer vision, and solution architecture which captured interest of many researchers and engineers. Visit my Google Scholar Profile.

Certifications

- AWS Certified Cloud Practitioner
- I have won the second place in AWS Robotic Hackathon happened on September 2024 in Memorial University of Newfoundland, NL, CA.

Communication Skills

- Proven ability to communicate complex technical concepts to both technical and non-technical stakeholders.
- Strong team player with experience collaborating with cross-functional teams to deliver high-quality solutions. Collaborated with developers from all around the world with different backgrounds.