# ARASH SADEGHI AMJADI

🌐 arashsadeghiamjadi.me 　 📖 Google Scholar 　 📍 St. John's, NL

✉ arash.sadeghi1997@gmail.com 　 in linkedin.com/in/arash-s-amjadi 　 ⌂ https://github.com/arash-sadeghi

## Technical Skills

**Programming Languages:** Java, C/C++, C#, Python, JavaScript.

**Artificial Inteligence:** PyTorch, TensorFlow, HuggingFace, Large Language Models (BERT, GPT), Generative Adversarial Networks, Computer Vision, LSTM, Data Mining.

**Web Development:** Typescript, HTML, CSS, ReactJS, MySQL, NodeJS (Express.js), Flask.

**Software Engineering:** AWS (**Certified Cloud Practitioner**), Azure, Git/GitHub, Github Actions, Docker, linux OS.

**Robotics:** Navigation and Path Planning, MATLAB, Robot Operating System (ROS) and Gazebo, Embedded C, AVR, ARM LPC1768,

## Work Experience

### GoodAI                                                                                     Prague, Czech Republic
*Full Stack Software Developer*                                                                 *Aug 2022 – Jan 2023*
- Designed and implemented a user-friendly ground station control software using React.js for efficient drone control.
- Implemented object detection and tracking for drones using deep learning and computer vision.
- Developed ROS node for drone navigation and control. Simulated controller in Gazebo and UE4.
- Set up REST API for drone app using C# and .NET to provide necessary information for drone during mission.

### Czech Technical University (CTU)                                                            Prague, Czech Republic
*Software Developer and Researcher*                                                             *Aug 2021 – Aug 2022*
- Led the development of robust Computer Vision and Deep Learning stacks, enabling precise object detection and tracking in complex environments for the Roboroyale project.
- Worked as software engineer, developing and maintaing code based for the robot software. Invloved in all aspects of software engineering.
- Implemented navigation software for robots using computer vision, with deep learning tasks handled in Python and navigation tasks in C++.

## Projects

### Music Generation with GANs and Large Language Models                                        Jan 2023 - Feb 2024
- Created an AI model for real-time music generation using generative adversarial networks (GANs) and large language models to accompany human players. The project attracted interested of many music and AI enthusiasts
- Developed and deployed the AI model as a containerized web application on Azure and AWS, building both the frontend and backend along with CI/CD pipelines.

### Web Development for SwarmJS                                                                  Jun 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.

### Robot Simulators Development                                                                 Sep 2019 - Apr 2021
- Developed custom robot simulators from scratch using ROS and Python, which are still actively used in the KOVAN lab.

### Publishing Journals and Conferences in AI and Robotics                                      Jan 2019 - Jul 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.

## Education

**MSc in Computer Science Memorial University of Newfoundland (MUN)**                            St. John's, NL, Canada
*CGPA: 4/4, Fully funded by MUN and Computer Science and Music department.*                      *Jan 2023 - Jul 2024*

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

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