Amirhosein Mohaddesi

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automated software testing software quality testing pipelines mentoring technical decision-making

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Summary

Software developer with over 4 years of experience specializing in simulation platform development and embedded neural network models. Built a multi-robot simulation platform using ROS2 integrating C++ and Python, and developed an 8-bit quantized spiking neural network for power-efficient deployment. Skilled in Python, C++, object-oriented programming, algorithm design, and Linux.

Experience

CARL Lab, University of California, Irvine *Sep 2021 - Jun 2025*
Graduate Researcher

- Built a multi-robot simulation platform in ROS2 to study human-inspired navigation strategies and integrated C++ and Python nodes for navigation, mapping, and data logging.

NMI Lab, University of California, Irvine *Jul 2020 - Jul 2021*
Assistant

- Developed an 8-bit quantized spiking neural network for power-efficient embedded deployment with a custom quantization technique.

Education

University of California, Irvine *Sep 2019 – Jun 2025*
Ph.D. in Information and Computer Science *Irvine, CA, USA*

Sharif University of Technology *Sep 2015 – Jun 2019*
B.S. in Computer Engineering *Tehran, Iran*

Skills

Python, C++, Bash, Linux (Ubuntu), Git, Docker, SQL, object-oriented programming, object-oriented design, data structures, algorithm design

Projects

Alter Ego: Personalized Conversational AI: Designed and deployed a conversational AI agent that represents my professional background and research expertise, built using Python, Gradio, and the OpenAI API with local persona embeddings.

Multi-Robot Coordination and Distributed Control System: Built a ROS2 Humble-based simulation platform for multi-robot coordination in disaster-response environments, integrated SLAM Toolbox, Nav2, map_merge, and frontier exploration.

Benefits of Varying Navigation Strategies in Teams of Robots: Investigated how Route, Survey, and Mixed strategies affect multi-robot team efficiency in ROS2 and Webots.