Adithya Mohan

Date of birth: 13/08/1994

Nationality: Indian

Sex: Male

CONTACT

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https://codewiz1394.github.io/

https://www.linkedin.com/in/adithya-mohan-770743141/

https://github.com/codewiz1394

SKILLS

Programming:

- Python, C++, Matlab/Simulink

Frameworks:

- ROS / ROS2, Gymnasium, Gazebo, PyTorch, AWS, Azure

Areas of Expertise:

- Machine Learning & Deep Learning
- Reinforcement Learning (DRL)
- Imitation & Inverse RL
- Adversarial Robustness
- Large Language Models (LLMs)
- Self-Supervised Learning
- Autonomous Driving & Robotics

LANGUAGES

- **ENGLISH** **C2**
- **GERMAN** **B2**
- **TAMIL** **Mother Tongue**

Levels:

A1 and A2: Basic User

B1 and B2: Independent User

C1 and C2: Proficient User

ABOUT MYSELF

I'm an AI Engineer and a Doctoral Researcher at Technische Hochschule Ingolstadt, Germany. My research is centered on adversarial attacks and defenses in Deep Reinforcement Learning (DRL), with a strong focus on real-world applications in autonomous systems.
I work at the crossroads of robotics, safety, and intelligent decision-making and building agents that can learn, adapt, and act reliably even when faced with adversarial inputs. From training DRL agents in simulation to testing them on real vehicles equipped with LiDAR, GNSS, and camera systems, I aim to bridge the gap between research and reality in embodied AI.

WORK EXPERIENCE

Technische Hochschule Ingolstadt Ingolstadt, Germany
AI Researcher - Project Lead
03/2023 – Current

- Developed complete autonomous driving stack and sensor hardware box for real-world deployment.
- Implemented control and deep reinforcement learning algorithms for two autonomous cars.
- Integrated ROS/ROS2 as the central robotic framework.
- Managed a team of 3 staff and supervised thesis students.
- Calibrated, time- and spatially-synchronized multi-modal sensors.
- Research robustness in DRL for autonomous driving under adversarial attacks.
- Identify critical states in RL and developed ML toolkits for safe AI.

Franka Emika GmbH Munich, Germany
AI Robotics Engineer
08/2022 – 12/2022

- Developed and implemented a learning engine for Franka robotic arms..
- Designed CMake-based C++ packages with thorough unit/component test coverage.
- Developed ML models and followed SaFe-guided software practices.

Quantum Systems GmbH Munich, Germany
Robotics Software Engineer
09/2021 – 07/2022

- Developed path planning algorithms and GUI using PyQt.
- Built a docking station for autonomous UAV landing using UR10e robots.
- Designed robotics architecture and state machines for task automation.
- Led CI/CD integration and unit test pipelines.
- Trained models to differentiate Quantum Systems drones

ARE23 GmbH Munich, Germany
Junior Robotics Engineer
08/2020 – 08/2021

- Developed ROS-based navigation and path planning modules.
- Created URDF/xacro simulation models and ML models using OpenCV, Keras, TensorFlow.
- Implemented cloud workflows using AWS Robomaker and Sagemaker.
- Built full-stack applications with React.js frontend and NGINX-based backend.
- Built machine learning solutions with OpenCV, Keras, and TensorFlow.
- Assisted in debugging and testing software systems.

Innok Robotics GmbH Regensburg, Germany
Master Thesis Student
02/2020 – 08/2020

- Developed a continuous monitoring tool for robot diagnostics.
- Created MySQL databases and implemented error identification systems.
- Automated analysis pipelines and visualizations in Python.

Flex India Pvt. Ltd. Chennai, India
Senior Analyst - Material Planner
07/2016 – 08/2018

- Led process automation initiatives and lean (Kaizen) improvements.
- Managed team operations to minimize non-value-added tasks.
- Applied supply chain analytics using R, Python, SQL, Tableau, and VBA.

PUBLICATIONS

02/2025

The Evolution of Criticality in Deep Reinforcement Learning (ICAART'25)

- Chidvilas Karpenahalli Ramakrishna, ***Adithya Mohan***, Zahra Zeinaly, Lenz Belzner
- **Link** https://www.scitepress.org/Papers/2025/131142/131142.pdf

EDUCATION AND TRAINING

01/2025 – Current

Doctor of Philosophy - Ph.D., Artificial Intelligence (Dr. rer. nat)

Technische Hochschule Ingolstadt, Germany

Dissertation Topic: A Path Towards Robust Embodied AI for Autonomous Systems: Leveraging DRL and Adversarial Defenses

03/2019 – 03/2021

Masters in Mechatronics and Cyber Physical Systems (M.Eng.)

Technische Hochschule Deggendorf, Germany

GPA 1.7

09/2012 – 05/2016

Bachelors in Mechanical Engineering (B.Eng.)

Anna University, India

GPA 2.3