Course Information

Instructor

Name: Dennis Gookyi

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Class Meeting

Evening Session: Tuesday 19:30 PM – 21:30 PM

Textbooks

1. Rogin R. Murphy: *Introduction to AI Robotics*
2. Gian Marco Iodice: *TinyML Cookbook*

Course Site

https://github.com/dennisgookyi/AI-Class

Expected Learning Outcomes

- Learn about an approach to lowering the cost of robotics by leveraging recent advances in edge machine learning (ML) using low-cost microcontrollers
- Learn about how to enable modern ML-powered robotics stacks to run on ultra-low-cost tiny robots
- Learn to develop techniques to run sophisticated algorithms on ultra-low-cost robot hardware

Schedule

Lecture	Topic
01	Course Overview
02	Course Hardware and Software Toolchain Setup
03	Overview of Tiny Machine Learning
04	Overview of Tiny Robot Learning
05	Overview of Edge Impulse Platform for Tiny Robot Learning
06	Hands-on Project: Creating a Voice Controlled Robotic Subsystem
07	Class Project: Advanced Anomaly Detection in Robotic Systems

Useful Links

https://www.tensorflow.org/lite

https://www.edgeimpulse.com/

https://micropython.org/

https://www.adafruit.com/

https://www.arduino.cc/

https://tinyml.seas.harvard.edu/SciTinyML-24/

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