Biram Bawo

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SUMMARY

Interested in a PhD in Reinforcement Learning for Robotic Applications: I am open to working on projects in the broad spectrum of reinforcement learning, inverse reinforcement learning or imitation learning for robotic applications.

EXPERIENCE

Teaching Assistant **Feb 2022 – June 2022**
Sabanci University *Istanbul, Turkey*

- Worked 15hrs/week as a graduate Teaching Assistant in the Advanced C++ Programming course at Sabanci University.

Embedded Software Engineer **Feb 2020 – June 2020**
KontrolMatik *Istanbul, Turkey*

- Worked on developing a full stack (Hardware & Software) IoT platform using the LoRa development board.

PROJECTS

MSc. Thesis:- Optimizing the energy output of a vertical axis wind turbine using DDPG and PPO June 2022

- Used model-free reinforcement learning algorithms - such as ppo and ddpg - as controller to optimize the energy output of a simulation of a vertical axis wind turbine. Work on verifying our results on a hardware-in-the-loop setup of the wind turbine is in progress.

Reinforcement Learning Paper Reproducibility Challenge | *Python, Deep Reinforcement Learning* **December 2021**

- The paper human-level control through Deep Reinforcement Learning was read and the algorithms used re-implemented. This was in contribution to the reproduciblity of scientific papers.

Stereo Imagery with Machine Learning | *Python,Opencv,Scikit-learn* **May 2021**

- Conducted a comprehensive analysis of different Machine Learning algorithms used in depth estimation from stereo imagery. Feature vectors from image patches were crafted by summing the absolute difference of each pair of patches and machine learning models were trained to predict their level of similarity.

Robotaxi | *Computer Vision, Motion Planning, Deep Learning* **August 2018**

- Participated in a national robotics competition and built a robotaxi to autonomously navigate a multi-routed track, recognize traffic symbols, obey them and taxi passengers from pick-up to drop-off locations using coordinates that were communicated wirelessly.

TECHNICAL SKILLS

Languages: Python, C, C++(OOP), MATLAB, Latex
Libraries/Toolbox: Pytorch, Keras, Scikit-Learn, Numpy, Scipy, OpenAI Gym, Matlab RL Toolbox, OpenCV
Technologies: Linux, Git, Github, Docker
Hardware : HIL, Digital Twin, Electronics, Arduino, Raspberry Pi, PIC, ESP, DSPACE

EDUCATION

Gaziantep University **Sep. 2016 – June 2020**
Bachelor of Science in Electrical and Electronics Engineering *Gaziantep, Turkey*

Sabanci University **Sep. 2020 – Dec. 2022**
Master of Science in Mechatronics Engineering *Istanbul, Turkey*

RELEVANT COURSEWORK

- Machine Learning
- Deep Learning
- Computer Vision
- Artificial Intelligence
- Autonomous Mobile Robotics
- System Identification