Aidan Reilly

610-608-8166 | arr160@pitt.edu | https://www.linkedin.com/in/aidan-r-reilly | https://github.com/Razzi86

Experience

Robotics Software Engineer Intern 05/2024 - current
Komatsu Mining *Warrendale, PA*

- Developing autonomous vehicles systems in GPS-denied environments using **Unreal Engine 5**
- Designing new autonomy prototypes relative to project requirements involving **Lidar, Radar, and IMU**

Robotics Software Engineer Intern 05/2023 - 08/2023
Komatsu Mining *Warrendale, PA*

- Developed autonomous $8m underground mining vehicles, enhancing operational efficiency by 25% and driving $1.1 billion in yearly revenue using the latest technologies of **C++, Python, CUDA, SLAM, NAV2, and ROS2**
- Streamlined development with **Docker** and **Azure DevOps** in a **Linux** environment
- Utilized **GPU parallelization** to increase performance speeds by 20x, directly improving the quality of simulations, lidar sensor input processing, and other robotics operations
- Implemented a modular and user friendly program for procedurally generating simulated environments
- Presented my work to various Vice Presidents, who in result allocated more assets and grew our program

Undergraduate Teaching Assistant - Discrete Mathematics 08/2022 - 05/2023
University of Pittsburgh *Pittsburgh, PA*

- Supported student learning through weekly recitation and office hours; managed grading and provided tutoring

Education

University of Pittsburgh 08/2021 - 05/2024
B.S. in Computer Science, Minor in Mathematics, GPA: 3.6

Delaware County Community College 08/2019 - 05/2021
A.S. in Computer Science, GPA: 3.9

Coursework: Deep Learning, Computer Vision, AI, Data Structures & Algorithms, C++, Python

Projects

ANA - Autonomous Navigation Assembly | https://github.com/Razzi86/ana_bot 08/2023 - current

- Engineered an autonomous robot car, integrating state of the art tools like **C++, ROS2, SLAM, NAV2, Lidar/Depth, Jetson Orin, Arduino, and Encoder Motors**
- Performs sensor fusion to achieve robust localization, control, and path planning

MIT-PITT-RW Perception Team | https://driverless.mit.edu/mitpittrw 01/2024 - current

- Contributed to an autonomous racecar by developing ML models for real-time vehicle and obstacle recognition
- Modified docker to work on **ARM64 computer architecture**, enabling development on the NVIDIA Jetson Orin

Clothing Segmentation Extension | https://github.com/DW-Han/fashion-segmentation-repo 02/2022 - 04/2023

- Led the development of an AI-based Chrome extension for live clothing segmentation, achieving %86 accuracy
- Utilized **Pytorch, TensorFow** for model, **JavaScript, CSS, HTML** for front and back end

Box Game | https://github.com/Razzi86/Box_Game 05/2019 - 07/2019

- Engineered a two-player handheld game using Raspberry Pi and electrical engineering

Skills

Languages: C/C++, Python, JavaScript, Java, MATLAB, CUDA

Tools: Docker, Azure Devops, Git/GitHub, NVIDIA Jetson, Unreal Engine 5, Gazebo, ROS2

Technologies: PyTorch, TensorFlow, OpenCV, CUDA, Ubuntu, PyQt5, SLAM, Nav2, PCL, ICP, YOLO, CAD