Aidan Reilly

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Experience

Komatsu Mining 05/2024 - present
Robotics Software Engineer Intern *Pittsburgh, PA*

- Developed cutting-edge software for driverless underground mining vehicles in complex GPS-denied environments.
- Implemented and optimized localization and mapping (SLAM) algorithms using LiDAR, Radar, and Odometry.
- Integrated autonomous navigation and path planning (Nav2), leading to a 30% increase in operational efficiency.
- gained experience with C++, Python, ROS2, Linux, CUDA, ICP, RViz2, Unreal Engine 5, and sensor fusion

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

- Developed the core autonomy software stack for underground mining with a focus on perception and simulation.
- Designed PCL CUDA nodes that filter, segment, align, and estimate volume and velocity of LiDAR pointclouds.
- Wrote a program that procedurally generates simulated environments, streamlining the development process.

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

- Supported students through recitation, tutoring, and office hours; Managed grading for homework and quizzes.

Projects — Portfolio

ANA (Autonomous Navigation Assembly) | github.com/Razzi86/ana_bot 08/2023 - present

- Designed a compact robot car capable of autonomous navigation, obstacle avoidance, localization, and mapping.
- Built a 3D-printed chassis from scratch with CAD, iteratively improving with each prototype.
- Platformed on NVIDIA Jetson Orin, ROS2, and Ubuntu; Uses LiDAR, Depth, Camera, Arduino, Encoder Motors.

MIT-PITT-RW, Perception Team | driverless.mit.edu/mitpittrw 01/2024 - present

- Developing software for an autonomous racecar that competes internationally at speeds of over 150mph.
- Trained machine learning models for real-time obstacle recognition and avoidance using lidar and HD camera.

Professional Tournament Poker 04/2019 - present

- Coached by super pros Chance Kornuth (Former #1 worldwide), James Romero (World Poker Tour Champion)
- Extensive mastery of game theory, statistics, and probability; Developed UBerkely poker course; Private coach

Clothing Segmentation Extension | github.com/DW-Han/fashion-segmentation-rep 08/2023 - 09/2023

- Developed a Chrome extension for live clothing segmentation and classification, achieving 86% accuracy
- Placed 2nd overall in the 2023 SteelHacks hackathon, winning the "User Experience" category

Education - *Combined Cumulative GPA: 3.72*

University of Pittsburgh 2024
Honors *- B.S. in Computer Science, Minor in Mathematics, GPA: 3.6*

Delaware County Community College 2021
Honors *- A.S. in Computer Science, GPA: 3.9*

Coursework: Data Structures 1/2, Computer Vision, Deep Learning, Artificial Intelligence, Practical AI, Operating Systems, Assembly & Computer Organization, Theory of Computation

Skills

Languages: C, C++, Python, MATLAB, MIPS, x86, Blueprint, URDF/XML, Java
Development: OpenCV, PyTorch, TensorFlow, Docker, Azure DevOps, Git, NVIDIA Jetson, YOLO, CAD, Visual Studio
Robotics: ROS2, SLAM, Nav2, ICP, CUDA, PCL, Unreal Engine 5, Gazebo, RViz2, Linux/Ubuntu, Arduino