Ryan Ramminger

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Skills

Programming Languages: Python, MATLAB, C/C++, PowerShell

Applications: Google Colab, Jupyter Notebook, ROS, GitLab, Microsoft Office 365, SolidWorks, AutoCAD, Tinkercad, Simulink, ANSYS Workbench

Technical Tools: TensorFlow, PyTorch, Linux, Machine Vision, Image Processing, OpenCV, Caffe, Mechatronics, Control Systems, Arduino, Raspberry Pi, Sensors, Actuators, Embedded Systems, IoT Development, FEA

Education

University of Birmingham – United Kingdom   Expected: May 2024

Master of Science – Robotics

University of Wisconsin – Green Bay   2017 – 2022

Bachelor of Science – Mechanical Engineering   GPA 3.54

Minor in Mathematics, Minor in Business

Projects

Object Detection and Vibration Feedback Glove   05/2023 – 09/2023

University of Birmingham, Birmingham, United Kingdom

- Developed a real-time object detection system using depth and color cameras to identify specific objects.
- Integrated vibration motors to provide tactile feedback in response to detected objects.
- Utilized deep learning models and computer vision techniques to efficiently process camera inputs and trigger appropriate motor responses.
- Implemented robust error handling and motor control mechanisms to ensure reliable operation and safe shutdown in various scenarios.

ML Image Classifier   12/2023

- Created a database of Friends TV series characters for facial recognition using Haar Cascade Classifiers, focusing on facial features and eye detection for precise cropping.
- Performed model comparison and selection involving SVM, Random Forest, and Logistic Regression, settling on SVM for character classification.
- Established a Flask server hosted locally on PyCharm, allowing users to upload images for real-time character identification using the deployed model.

Work Experience

Machine Learning Crash Course - *Google*   09/2023 – 10/2023

- Mastered foundational concepts and techniques in machine learning and artificial intelligence.
- Acquired practical experience in designing various machine learning and deep learning algorithms using TensorFlow APIs for model development.
- Leveraged the Google Colab coding environment to develop machine learning solutions to a wide range of applications.
- Optimized ML predictions with Data Preparation and Feature Engineering techniques

Team Swim Coach (Volunteer)

Green Bay Athletics, Green Bay, Wisconsin   08/2021 – 11/2021

- Collaborated in a team of five to coach NCAA Division 1 swim team following resignation of swim coach.
- Tailored individualized training programs for swimmers, fostering personalized development strategies while coordinating team practices and optimizing competition lineups.

Honors and Affiliations

- UBRobotics Club   01/2023 – 05/2023
- University of Wisconsin – Green Bay Degree Honors: Cum Laude   05/2022
- University of Wisconsin – Green Bay Swim Team Captain's Award for Leadership   05/2021
- University of Wisconsin – Green Bay Colleges against Cancer President   09/2018 – 05/2022
- University of Wisconsin – Green Bay NCAA Division 1 Men's Swim Team   09/2017 – 05/2022