Ryan Andrew Gauthier

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robotsbyryan.com

Objective

Searching for entry-level roles or internship opportunities in automation and robotics leveraging state of the art artificial intelligence, machine learning, and controls systems to develop innovative solutions

Education

Master of Science in Computer Science January 2023 - Ongoing
California State University, Fullerton
Courses include: Artificial Neural Networks

Bachelor of Science in Mechanical Engineering, Minor in Computer Science August 2017 – May 2020
California State University, Fullerton Graduated with 3.52 GPA
Courses included: Game Design, Mechatronics, Mechanical Control Systems, Web Back-End Engineering

Technical Skills

Languages: Bash, C, C++, JavaScript, MATLAB, Python, SQL
Software, Technologies, & Libraries: .env, Arduino IDE, AutoCAD, AWS (CloudFront, EBS, EC2, S3, VPC), Bootstrap, Caddy, CDN, Cloudflare, CSS, Flask, GitHub, Google Scripts, Gunicorn, HTML, HTTP, JSON, Linux, Makefiles, Microsoft Office, MySQL, Node.js, PyCharm, pygame, Raspberry Pi, regex, REST, SolidWorks, SQLite, Unreal Engine 4, Virtual Machines, Visual Studio, Visual Studio Code
Hardware: Arduino, bandsaws, batteries, calipers, drawings, drill presses, drills and taps, electronic components, embedded electronics, FDM 3D printers, files, Haas CNC mills, LEDs, machining, manual mills, microcontrollers, motor drivers, motors, multimeters, picks and punches, Raspberry Pi, rotary tools, sensors, shears, soldering, various abrasives, waterjets, wiring

Projects

CSUF Student Design Team - Titan Rover September 2017 – June 2020

- Utilizing Solidworks, personally designed, sourced, manufactured, and tested a fully operational three degrees of freedom robotic arm for use as a soil excavator
    - Leveraged both HSMWorks G-code and toleranced drawings to guide CNC machining on a Haas mill with parts supplied from local vendors
    - Successfully integrated system onto rover, troubleshooting various emergent issues, ultimately producing a functional subsystem both within budget and ahead of schedule
- Redesigned in SolidWorks and fabricated via 3D printing a battery-powered laser pointer-guided remotely actuated solenoid button pressing assembly for use by a robotic gripper
    - Developed schematic, wired up components, and programmed the ESP32 controller, upgrading the communications system from UART to WiFi
- Implemented a stepper motor with potentiometer feedback via an Arduino Uno communicating over serial with a Raspberry Pi to facilitate rotation of a base station antenna

Work History

Part-time Storekeeper November 2016 – July 2021
Gauthier Enterprises Inc Brea, California

- Performed various general shopkeeping duties including stocking, cashiering, and cleaning. Received, validated, and delivered prepared orders of raw materials weekly