

# 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 designs

## 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