JOAQUIN PAZ

311 Eddy St.
Ithaca, NY, 14850
joaquin-paz.github.io/portfolio/
+1 (936) 443-6517
jp928@cornell.edu

Always creatively and reliably deploying my technical and leadership skills in Mechanical and Electrical Engineering.

EDUCATION

Cornell University GPA: 3.248/4.00 ***Undergraduate Graduation: May '25, Master's Graduation December '25***

- Pursuing a Bachelor's of Science degree in Mechanical and Aerospace Engineering, Minoring in Electrical Engineering
- Course Work: Heat Transfer, Combustion Processes, Circuit Design, Signal Design, Dynamics, Fluid Mechanics, Computer-Aided Manufacture, Radar Technology, Automotive Design, Product Design, Data Science, Differential Equations, Digital Logic, Robotics, Linear Algebra, Mechanics of Engineering Materials, Thermodynamics

PROFESSIONAL WORK EXPERIENCE

Koch Separation Solutions *Boston, MA* ***May 2024-August 2024***

- Modeling interface flow tubing between membrane housings and variable fluid valve mounting in SolidWorks.
- Pulling queries with SQL and VBA to report statistical data trends with Python in membrane filter manufacturing.

Creative Engineering *Bronxville, NY* *January 2023; May 2023-August 2023*

- Designed with SolidWorks and manufactured parts for various clients using interdisciplinary techniques for specialized uses.
- Set up and used a computer compliant to handle Controlled Unclassified Information in CAD for a US government project.
- Maintained a 3D printer farm of different models, performing repairs when necessary.

Beverly Hills Motors *Houston, TX* ***April 2022; May 2022-August 2022***

- Worked full time under specialized automotive technicians at a Mercedes Benz restorer.
- Practiced the trade standards for sandblasting, powder coating, zinc coating.
- Worked with harness equipment to diagnose ECU errors that are displayed to the driver.

Code Ninjas *Magnolia, TX* ***October 2019-August 2022***

- Inspired kids' interests in coding by teaching game developing in Java, Lua, and C# in yearlong classes and summer camps.
- Built and taught an intensive curriculum as Lead Coding Teacher on 3D Printing and Additive Manufacturing.

TECHNICAL EXPERIENCES

Cornell Racing Formula SAE – Powertrain Peripherals Designer ***January 2022 to Present***

- Executing the full charging system and interfaces for the 2024-25 vehicle involving both low and high voltage components
- Designing and producing 3D parts through additive manufacturing or machining on mill and lathes.
- Using simulation software MATLAB and Ansys to calculate stress, strain, and other patterns from real data.
- Participated in the Suspension, Drivetrain, and Low Voltage subteams in previous years.

Combustion Bicycle ***October 2022 to Present***

- Built and use a 2-stroke combustion engine bicycle every day, constantly increasing the vehicle's reliability and performance.

Bass Neuroscience Laboratory – Microcontroller-Based Fish Platform **April 2024 to Present**

- Wired, programmed, and tested a micron-accurate fish mount using stepper motors as movement devices for a biology lab.

American Society of Mechanical Engineers, Computer-Aided Design Mentor ***January 2022 to Present***

- Volunteering my time to teach Fusion 360 to those who are curious about 3D modeling.

CAPABILITIES AND CERTIFICATIONS

Blue Apron (Level 3) at Emerson Machine Shop ***Manual Certification December '21, CAM Certification October '23***

- Designing, programming, and machining parts at the Emerson Lab at Cornell for FSAE Racing Team and for my projects.

3D Printer Use and Upkeep

- Had the pleasure to work extensively with both SLA and FDM printers (Such as Formlabs Three to RatRig printers).
- Comfortable with reflashing software, handling mechanical repairs, and with regular maintenance.

Inductive Automation Software: Ignition 8.1 Certification ***July 2023***

PCB Design

- Altium learned and employed for use in projects for Cornell Racing FSAE team as well as personal projects.
- Acquired and applied an understanding of layouts, interference, and other necessary PCB manufacturing techniques

LANGUAGES, SKILLS, & INTERESTS

Skills: Ansys, SolidWorks**,** Inventor, Altium, Fusion 360, Ignition 8.1, Maya, Blender
Coding Languages: MATLAB, Python, SQL, VBA, Java, Javascript, Lua, HTML
Languages: {Fluent: English, Spanish, French} {Learning: Mandarin, Vietnamese }
Interests: Upgrading soft dart blasters, rewiring household appliances, RC cars, cooking, coding Discord bots, guitar