

Bryan Fuchs

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Education

Cornell University

Ithaca, NY

B.S. IN MECHANICAL ENGINEERING: GPA: 3.62

May 2023

Coursework: Introductory Fluid Mechanics, Statics, Dynamics, Mechanics of Engineering Materials, Mechatronics, Mechanical Synthesis, Thermodynamics, Linear Algebra, Differential Equations

Engineering Experience

BNSF Railway

Barstow, CA

MECHANICAL INTERN

June 2021 - August 2021

- Improved the advanced diagnosis process for locating locomotive defects through process engineering; reduced the dwell time of locomotives in the maintenance building and increased production rates for the facility
- Serviced locomotives by replacing traction motors and idler wheel sets
- Analyzed the fall protection barrier with 3D modeling to better protect employees from a 15 foot drop; ensured that the barrier would not yield from the weight of a falling employee
- Proposed improvements, led the discussion of current flaws, and recommended next steps to management, increasing the efficiency of the train yard

Cornell Baja Racing

Ithaca, NY

MECHANICAL ENGINEERING MEMBER

October 2019 - Present

- Designing, manufacturing, and racing an off-road vehicle to compete in the SAE Collegiate Baja Design Series
- Redesigned custom brake calipers with a focus on improving packaging, weight, and sealing
- Led the implementation of Inboard Braking which reduced the number of parts by 25%.
- Reduced system weight by 22% and streamlined the bleeding process by introducing custom brake lines.
- Engineered the car's front upright to accommodate the integration of the corner assembly, reducing previous weight by 20%
- Performed FEA on ANSYS workbench to ensure the safe usage of the front upright in off-road conditions
- Presented at Design Reviews to educate the team on my research findings and proposed improvements

Leadership

Singapore Armed Forces

Singapore, Singapore

1ST LIEUTENANT, 21ST SINGAPORE ARTILLERY BATTALION

July 2017 - May 2019

- Planned and operated deployment of artillery Howitzers for live firing
- Commanded a platoon of 50 soldiers; supervised training, combat readiness, fitness, and overall well being
- Coordinated many battalion events with a peak attendance of 400 participants
- Presented with "Outstanding Performance and Conduct" award upon completion of full-time service

Cornell Baja Racing

Ithaca, NY

BRAKES SUB-TEAM LEAD

June 2021 - Present

- Leads a team of students in the design, fabrication, and testing of a hydraulic brake system
- Orchestrates weekly meetings for members to communicate their progress and obstacles
- Attends weekly lead meetings to re-evaluate team goals and keep track of schedules and timelines

Skills

Technical

Proficient in ANSYS Workbench, SolidWorks, Fusion 360, AutoCAD

Fabrication

Manual Mill, Manual Lathe, General Shop Skills, Welding

Languages

Python (Intermediate), MATLAB (Intermediate), Mandarin (Intermediate)