Gabriel Fuchs

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EDUCATION

Cornell University, College of Engineering **Ithaca, NY**
Candidate for Bachelor of Science • Cumulative GPA: 4.16 Expected May 2024
Major: *Mechanical Engineering* • Minor: *Aerospace Engineering, Computer Science*
Relevant Courses*:* Statics & Mechanics of Solids, Mechatronics, Java, Python, Calculus III, Dynamics, Mechanical Synthesis

PROFESSIONAL EXPERIENCE

PHT Aerospace **Pompton Plains, NJ**
Aerospace Engineering Intern Oct 2019 - March 2020

- Collaborated with group of 7 engineers within fields including mechanical, electrical, and material science engineering
- Used Solid Works to reverse engineer small scale airplane parts in specification with government regulation
- Used various soldering, fitting, and assembly techniques on manufacturing floor in production of designed parts

ENGINEERING EXPERIENCE

Cornell University Baja Racing Project Team **Ithaca, NY**
Frame Sub-team Member October 2020 - Present

- Designed parts for Cornell Baja Racing car in SolidWorks and machined parts in car lab
- Constructed bleeder block to specification in SolidWorks for 3D printing and physical use in bleed process
- Reviewed technical reports to identify future system requirements and design goals for non-structural tabs

Cornell University AI Partial Differential Equations Research Project **Ithaca, NY**
Student Researcher May 2021 – October 2021

- Worked alongside professor and two students to explore possible alternatives in PDE discovery
- Investigated techniques to reduce necessary size of input data for modeling PDEs
- Explored error from using FFT with various relatively small datasets to model heat and wave equation

Mechatronics Research Lab, Independent Research **Hackensack, NJ**
Student Researcher January 2017 – March 2020

- Designed and built a prototype for portable hydroelectric generator with solar panels for portable energy collection
- Repurposed donated 3D gantry system to automatically plant seeds into soil and water ground during plant growth
- Researched methods for use of sensors to monitor plant health for concept of farming automation on Mars

LEADERSHIP & TEAMWORK EXPERIENCE

Phi Gamma Nu Professional Business Fraternity **Ithaca, NY**
Alpha Delta Class Brother October 2021 - Present

- Developed intensive entrepreneurship ventures with real world feasibility for implementation
- Researched, prepared, and presented multiple case studies within fields of management, education, and real estate
- Constructed detailed financial models in respect to valuation of present companies, and fictional startups

Bergen County Academies First Robotics Competition Team **Hackensack, NJ**
Coleader & Builder October 2018 – January 2020

- Led biweekly meetings, oversaw two independent robotic teams while acting as leader for primary team
- Coordinated group ideas into a functional concept, bridging gap between subteams for seamless integration of work
- Designed, built, and tested robot, placing first in regional competition, and qualifying for states competition

AWARDS

- Top 10 Placement in Extreme Redesign: Engineering Secondary Education Challenge **2019**
- TSA National Competition (Top Ten Placement in National Math and Engineering Challenge) **2017**

SPECIALIZED SKILLS & INTERESTS

- **Manufacturing Techniques**: Laser cutting, Milling (g-Code), 3D Printing, Arduino, Soldering
- **Programs:** AutoCAD, Autodesk Inventor, SolidWorks, Python, MatLab, Java, Blender, Mathematica
- **Interests:** Soccer, Swimming, Entrepreneurship, Backpacking, Sci-fi novels, Rubik's Cube