Rebecca Edelman

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EDUCATION

Duke University Durham, NC | May 2024

BSE in Mechanical Engineering, Minor in Machine Learning | GPA: 3.9/4.0

Dean's list with Distinction Spring 2022

Pi Tau Sigma Honors Society for Mechanical Engineers

Tau Beta Pi Honors Society for Engineers

WORK EXPERIENCE

INTUITIVE SURGICAL | Mechanical Engineering Intern Sunnyvale, CA | June 2023 - August 2023

- Applied DOE in finding a breakdown of the forces on an I-beam integral in the functioning of a company product. The results will be used in future algorithm changes, test designs, and to better advise surgeons on use of the product. The developed testing procedure will be used for future I-beam analysis.
- Designed specialized parts, most notably one that allowed users to unload reloads roughly 3x as efficiently.
- Identified through mechanical and statistical methodology the possible factors causing two RMAs.

GENERAL ROBOTICS LAB | Mechanical Engineer Durham, NC | January 2023 - Present

- Designing a robot that can achieve sustained flight through a scotch-yoke flapping wing mechanism.
- Utilizing Solidworks software for CFD and FEA analysis.

ROBOTIX | Mechanical Engineering Intern Tel Aviv, Israel | June 2022 - August 2022

- Transformed engineering education in Israel by designing four different robotics kits to be distributed to over 300 classrooms to teach kids engineering in a hands-on environment.
- Gave Hebrew and Arabic speaking students access to highly certified engineering classes in a non-intimidating environment by working with the American Consulate in Israel to create a Makerspace focused on student-directed learning.

DIBS | Data Analyst New York, NY | Oct 2017 - May 2018

- Led the launch of a google AdWords campaign by focusing on cost-effectiveness in the analysis of marketing strategies.
- Evaluated the ability of Dibs' dynamic pricing algorithms to predict and understand human behavior by using SQL to analyze data on customers' booking habits.

CONFERENCE PRESENTATIONS

12th Constructal Law Conference Torino, Italy | Fall 2023

Constructal Theory of Flapping Wing Unmanned Aerial Vehicles

Oral presentation in front of about 100 people that used Constructal Theory to predict the minimum size at which a UAV must be tethered in order to support its energy requirements

LEADERSHIP & PROJECTS

MEDesign | Project Lead: Spring 2023 | President: Fall 2023 - Present Durham, NC | January 2022 - Present

Secured resources and future project opportunities by forming a partnership with a Duke trauma surgeon that specializes in medical device production. Identified a gap in the market by assessing factors like market need, price, and feasibility. Led a restructuring of goals in order to better understand our metrics for success and the corresponding timeline for an automated wound closure device. Advising project leads in order to advance project timelines and eliminate any roadblocks

Duke eNable Chapter | Project Lead Durham, NC | January 2022 - Present

Designing and building a prosthetic leg with a team for a dog whose family otherwise couldn't afford one. Communicates with client to secure measurements and data needed for the prosthetic while also ensuring a long-term positive relationship.

Helping Hands eNable Chapter | Founder and Head New York, NY | September 2018 - June 2020

Found animals in need of prosthetics by coordinating with local animal shelters and organizations. Helped increase accessibility of prosthetics by using Fusion360 to design, 3D print, and assembled a wheelchair for a dog and a flexible "cap" prosthetic for a cat with owners who otherwise couldn't afford it.

FTC Robotics | Coach on Drive Team New York, NY | September 2017 - June 2020

Acted as a role model for female teammates interested in learning more about robotics but intimidated by the male-dominated atmosphere, four of whom became team leaders on the drive team their senior year. Built over 10 robots designed to compete in competitions; qualified in the State Championships in 2018 and 2019; competed in the 2018 East Super Regional Competition.

SKILLS & ADDITIONAL INTERESTS

Other work: Math Help Room TA (Fall 2022 - 2024), Habitat for Humanity Builds Coordinator (September 2016 - Present)
Languages: Java, Python, Javascript, MATLAB, SQL, TestCafe, Maple **3D Modelling:** Fusion360, Solidworks, Blender, OnShape
Machining: Manual lathe, CNC mill, bandsaw, and drill press operation **Additional Skills:** GitHub, LabVIEW, Gage R&R, DOE, V&V