Isabella McLaughlin

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EDUCATION

Columbia University, School of Engineering and Applied Sciences **May 2023**

B.S. in Mechanical Engineering, Minor in Hispanic Studies, Dean's List Honors every semester, **GPA**: 3.817

Relevant Coursework: Intro to Computer Programming in Java, Foundations of Data Science, Intro to Electrical Engineering, Computer Graphics & Design, Control Systems, Human Centered Design, Robotics Studio

WORK EXPERIENCE

Structural Design Engineer, Knowledge Based Integrated Tool Team, The Boeing Company **September 2023 - Present**

- Utilize Python to create assitive software tools for design and analysis engineers, saving thousands of manual labor hours
- Received a Boeing Meritorious Invention Disclosure Award for Generative Design Approach Patent
- Lead team code review meetings, inviting subject matter experts to enhance code quality and share common practices
- Create a library of modular functions to be utilized for design software tools in CATIA and 3DExperience
- Mentor colleagues in programmatic design, providing instruction on essential APIs and libraries to improve their efficiency
- Create software tools with intuitive graphic user interfaces (GUIs) for a customer focused end-product

Project Engineer Intern, The Walsh Group **June 2022 - August 2022**

- Implemented new practices to reduce construction waste and pollution as the LEED Green Associate on the team
- Designed engineering and structural drawings and tracked construction progress with Bluebeam Revu

Research Assistant, Mechanical Engineering Department, Columbia University **May 2021 - September 2021**

- Developed Python code to track a tennis ball in match play through video and sound
- Performed over 10,000 trials of tennis ball bounces and coded a Python algorithm to sort the data
- Programmed a camera to follow and track a moving tennis ball utilizing Raspberry Pi and OpenCV Library

PROJECTS

Quadruped Walking Robot **September 2022 – May 2023**

- Independently designed a quadruped walking robot mimicking dog-like characteristics and movements from scratch
- Programmed movement of walking robot in Python to manipulate the bus servos embedded within the four legs

Forage **January 2022 – May 2023**

- Co-founded Forage application that aims to reduce food waste amongst college students
- Won a $6,000 Ignition grant from Columbia Department of Entrepreneurship to fund venture development
- Worked alongside classmate to create a beta version of the mobile application in Xamarin using C#

NASA Proposal Writing and Evaluation Experience Academy, L'SPACE Program **May 2022 - August 2022**

- Drafted a formal proposal and New Technology Report for NASA grant
- Modeled an 11-part CAD assembly of a Lunar Dust Seal on SolidWorks
- Crafted a year-long Gantt chart schedule for the development of the Lunar Dust Seal as project manager

LEADERSHIP & ACTIVITIES

Vice President, American Society of Mechanical Engineers, Columbia University **September 2020 – May 2023**

- Established school's branch of the American Society of Mechanical Engineers, growing it to 40 members
- Created a mentorship program where every Mechanical Engineering junior is paired with a senior

Tutor, Latinx Professional Educational Network, Columbia University **September 2019 - May 2023**

- Tutored 5 high school students in weekly, one-on-one sessions from low-income neighborhoods in New York
- Mentored 10 students through the college admissions process, increasing the college attendance rate by 25%

Technical Team, Engineers Without Borders, Columbia University **September 2019 - May 2021**

- Prototyped solar panel tracking mount to ensure optimal use of solar panels powering small Uganda town, Otubet
- Corresponded with over 30 people in Otubet and iterated designs to ensure project aligned with community's goals

SKILLS

Computer Programming: Python, Java, C#, MATLAB, Data Analysis, GUI Development (PyQt, Tkinter), Git

Language: Spanish (working proficiency)