

Shiksha Sabharwal

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EDUCATION

Columbia University

New York, NY

MS Mechanical Engineering (Robotics and Control)

Feb 2024

- Coursework: Digital Manufacturing, Mechatronics & Embedded Systems, Intro to Control Theory, Human-Centered Design, Robotics Studio, Data Science for Mechanical Engineers, Evolutionary and Computational Algorithms, Biomedical Innovation
- Leadership: Graduate Representative- IEEE, Teaching Assistant- Decarbonizing Buildings, Corporate Relations Chair- Graduate Society of Women Engineers, Department Representative- Mechanical Engineering at Engineering Graduate Student Council

TECHNICAL SKILLS

- Software: SolidWorks, Autodesk Fusion, Altair, Blender, OpenSCAD, Simulink, Multisim
- Programming: Python, C++, MATLAB, HTML
- Manufacturing: 3D Printing, CNC, Laser Cutting, Soldering

WORK EXPERIENCE

AVOL Aerospace

Brooklyn, NY

Mechanical Engineering Consultant

Jan 2024 - Feb 2024

- Built aircraft's landing gear enabling safe landing; devised winglets to develop additional thrust, improving efficiency by 50%
- Executed firmware configuration and engineering analyses to obtain optimal flight control; enabling VTOL
- Oversaw comprehensive manufacturing processes, including assembly, ensuring quality and timely delivery of aircraft
- Redesigning a quality control component to maximize impact, and reduce material wastage; resulting in a 100% efficient design

CLIP Bike

Brooklyn, US

Engineering and Business Operations Intern

Jun 2023 - Dec 2023

- Administered assembly of products, conducted quality control tests ensuring product excellence before customer delivery
- Managed 10 interns towards strategizing sales protocols for product visibility; achieved increased sales
- Created a carbon emissions report of product by analyzing product life cycle data and calculating carbon emission equivalents
- Expanded customer outreach by organizing 40+ demonstrations in NYC to drive client acquisition and retention for product

Transworld Group

Dubai, UAE

Software Trainee

Jul 2021 - May 2022

- Coordinated 4 e-commerce products, including creation of a B2B e-commerce product roadmap for Chartering
- Led development of scope documentation for the Vessel Chartering product, incorporating Blockchain and NFT creation
- Collaborated with development team to design app prototypes using Figma for mobile and desktop web applications

Johnnette Technologies

Noida, India

Research Intern

Jan 2020 - Oct 2020

- Assembled a multirotor drone based on Arduino UNO in the Unmanned Aerial Vehicles department; performed hover testing
- Interviewed a UK Military Veteran; discussing post-military challenges; analyzing veteran opportunities within UAV industry
- Conducted a National Conference for the Indian Drone Industry to showcase product and increase visibility

PROFESSIONAL PROJECTS

CervaCare

New York, NY

Columbia University

Dec 2023 - Dec 2023

- Designed a patient-compliant, efficient, and at-home tampon-inspired cervical cancer screening device; 70% more comfortable
- Spearheaded marketing highlighting device's 100% sustainable materials and user-friendliness, driving higher adoption rates

SpeedoBot

New York, NY

Columbia University

May 2023 - May 2023

- Conceptualized, designed, and constructed a functional 4-legged walking robot; capable of traveling 60 cm in 4 seconds
- Utilized Fusion 360 to create a detailed CAD model of robot, optimizing its structural and mechanical aspects for efficiency

Physics Simulator

New York, NY

Columbia University

Dec 2022 - Dec 2022

- Developed a physics simulator using Python and Vpython could breathe, walk, and bounce, all and collectively
- Executed research on genetically programmable soft robots and results confirmed 80% efficiency in speed and formation

Grab-and-go Fetch Robot

New York, NY

Columbia University

Dec 2022 - Dec 2022

- Simulated and devised a 5-degree-of-freedom robotics arm to fetch items from grocery shops to shopping carts for retail stores
- Optimized operational efficiency of robotic arm by 60%, automating fetching items, fostered towards disabled customers

LEADERSHIP AND ACTIVITIES

- Leading Women in Robotics NYC Chapter to inspire, connect, and advance individuals interested in robotics (2024-present)
- Served in the Graduate Society of Women Engineers at Columbia, expanding Women in Tech initiatives (2023)