

# Sanjana Subramanian

## Columbia University, Mechanical Engineering

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Engineer and designer with experience in hardware and software product development. I thrive as the interface between technical, creative, and practical ideas during the design and development process.

## ★ Experience

### Systems Engineer, Amazon Robotics Boston, MA | Robotics Deployment | October 2024

The robotics deployment team at Amazon is responsible for optimizing technology systems in fulfillment centers.

- Led UX research, product design, and build for an automated project tracker for robotics deployment projects.

### UX Lead & Product Manager, MOBY Tag Columbia University Senior Thesis | Sep 2023 - Mar 2024

Data collection is vital in whale preservation. MOBY is a non-invasive, long-term data tag equipped with live video feed, novel speed sensing, and on-board energy regeneration.

- Led user research and stakeholder design reviews with ten active oceanography and cetacean experts.
- Implemented and lab-tested embedded systems architecture for live video and tag-to-app satellite communication.
- Interfaced between hardware, software, safety, and testing sub-projects to produce a HiFi prototype.

### Structures Lead & Project Manager, EWB: Morocco Columbia University | Nonprofit | Sep 2020 - Jan 2023

We built a three-tank, 100,000L water filtration and delivery system alongside two communities in Ait Bayoud, Morocco. I served a team of 50+ people in NYC and Ait Bayoud as pre-trip construction PM.

- Led a team of 50+ people in NYC and Morocco in system design, development, and implementation.
- Established a continued education program to encourage empathetic engineering decisions guided by experts.

### UX Fellow, Design@Columbia x Google New York, NY | Google UX Design Sprint | Jan 2024 - Apr 2024

Mona is an intuitive, collaborative, and accessible museum collections management system.

- Led UI/UX design and user research. Pitched HiFi prototype for a Google UX design sprint.

### Product Design Engineering Intern, PENSA Brooklyn, NY | Design Firm | Jun 2023 - Sep 2023

An office furnishing company asked PENSA to design a lactation pod for working mothers, allowing small offices without space for a mother's room to accommodate new parents.

- Created CAD prototypes to communicate design variants and buildability in biweekly client progress reports.
- Designed refrigerated, two-way locker system for breast milk to be accessed while inside or outside the pod.

### The Robot Doorman Project, Columbia Engineering New York, NY | Speech Recognition | Fall 2022

For the *Fundamentals of Speech Recognition* course, I adapted AI-powered speech recognition systems to fit on the Adafruit Circuit Playground Bluefruit microcontroller.

- Integrated speech recognition system with a physical housing to create an interactive digital doorman.
- Developed organic humanoid (pelvis, head, spine) CAD designs for physical housing.

### Engineering Intern, Natural Machines Barcelona, ES | 3D Food Printing | May 2022 - Aug 2022

3D Food/Pharmaceutical Printing

- Designed and prototyped a machine add-on to prep and homogenize ingredients for 3D food printing.

## ★ Skills

### Design/Product

Data-Driven Product Design, User-Centered Strategy, Ethnographic Research, Competitive Analysis, Design Process, Interaction Design, Data Visualization, 2D/3D Visualization, UI/UX, Rapid Prototyping, Wireframing, Design Review

### Design Tools & Coding Languages

Figma, Origami, Miro, Blender, Adobe Illustrator/Photoshop, FigJam, HTML/CSS, 3D Printing, Laser Cutting, CNC Machining, Makerspace Tools, Python, Java, C++, MATLAB, SOLIDWORKS, Fusion 360, AutoCAD

### Engineering

Finite Element Analysis, Tolerancing, Prototyping Hardware/Software, Embedded Systems/IoT, Speech and Speaker Recognition, CAD

## ★ Award Winning Work

“The MOBY Tag” (2024), Columbia University Senior Design “Best in Design/Engineering” Award