

# Samriddho Ghosh

Design Portfolio



# Samriddho Ghosh

*Product Designer*

## EDUCATION

### Master of Design, HCI and Emerging Technologies

University of California, Berkeley August 2022 - December 2023 (expected)

### Bachelor of Architecture, Product Design

Jadavpur University, India June 2017 - May 2022

## EXPERIENCE

### Conversational UX Design Intern

Oracle Corporation May 2023 - August 2023 - Redwood Shores, California

- Researched 22 distinct conversation patterns for reusability purposes for different text based human-computer interactions for Oracle's Conversation Design Team.
- Formalize the development of a standardized design framework to reuse 3 conversational patterns, focusing on LLM based experiences in an enterprise context.
- Coordinated with developers, program managers and different stakeholders to evaluate implementational challenges with the framework to come up with a production roadmap for GenAI implementation.

### Co-Founder and Head of Product

GroundBlu Technologies July 2019 - June 2022 - Dehradun, India

- Co-founded a venture-backed deep-tech startup focusing on developing novel water purification solutions with nanotechnology to address India's drinking water crisis
- Headed a cross-functional team of 4 to design the world's smallest \$1 water purifier 'Paanio' to empower the underserved with access to clean drinking water. Scaled the product in 12 districts with 200k + liters of water purified
- Designed and implemented Water-as-a-Service (WaaS) model to find product market fit, increasing adoption rates by 60% and reducing churn rate by 25%.

## SKILLS

### Design

Visual Design, Design Systems, Journey Mapping, Story Boarding, Rapid Prototyping, Information Architecture, Sketching

### Tools & Technologies

Figma, Miro, UserTesting, Adobe CC, InVision, HTML, CSS, Python, JavaScript, Machine Learning, OpenCV, AR/VR, OpenGL, Unity, Jira, Fusion 360, Blender

### Publications

**Ghosh, S., Ghosh, M. Origami based ultraviolet C device for low cost portable disinfection- using a parametric approach to design.**

Springer MRS Advances 5, 2907-2916 (2020). [www.ncbi.nlm.nih.gov/pmc/articles/PMC7790026](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7790026)

**Ghosh, M., Ghosh, S. Establishing a generic process framework for design and analysis of materials based on visual perception: study through two cases.**

Springer MRS Advances 5, 1167-1174 (2020). <https://doi.org/10.1557/adv.2020.63>



# Bondie

Reimagining the future of bonding between  
parents and children.

Technology Design Foundation,  
Master of Design, UC Berkeley



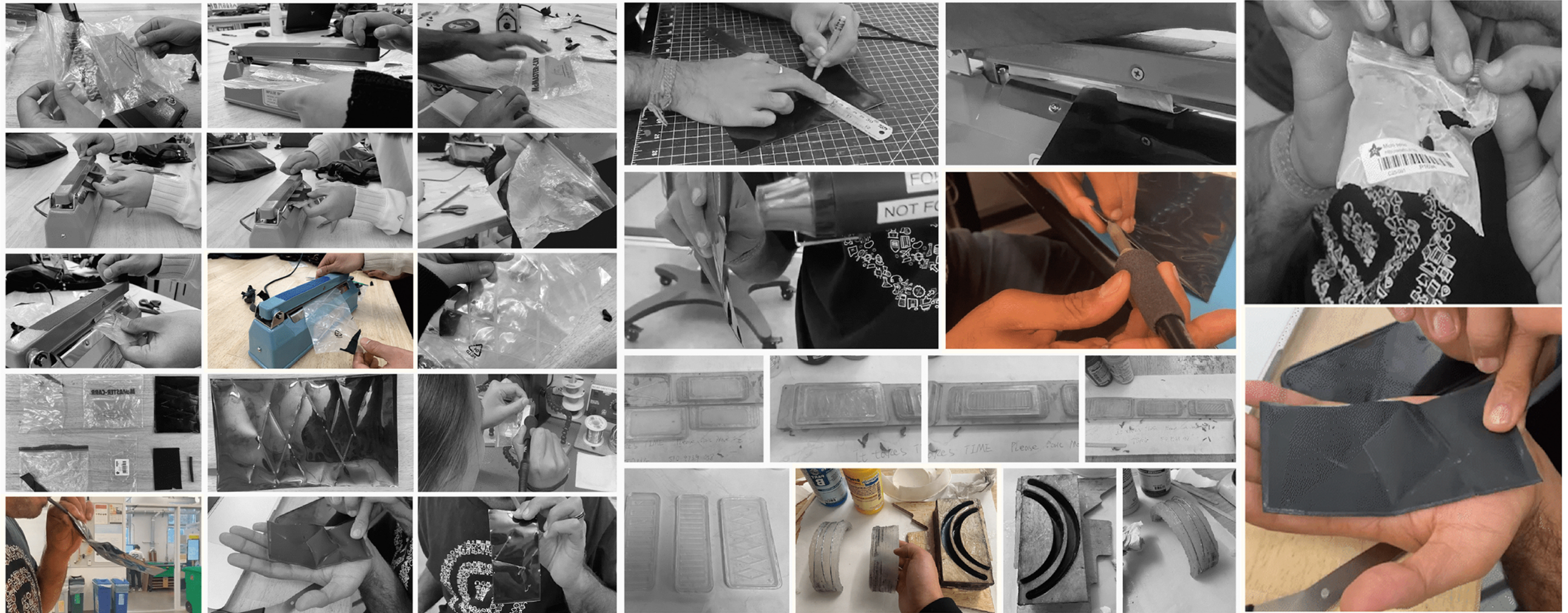
Team: Nian Tong, Winny Wang, Ye Moon  
Cho, Yiddie Ling, Samriddho Ghosh

## Problem statement

How might we make interaction between parent and kids more intimate and natural when the parent is physically away from their children?







## Process

The team tested plastic bags initially, facing challenges in controlling complex shapes due to the inflammable nature of polymer-based plastic. Vinyl sheets, considered close to textiles, showed success in heat sealing for simple shapes but encountered difficulties when scaling up. To address this, the team decided to eliminate heat sealing and directly develop forms with complex geometry etched in them. However, silicon was rejected as it expanded locally before reaching other edges, causing problems in the process.



## Prototype

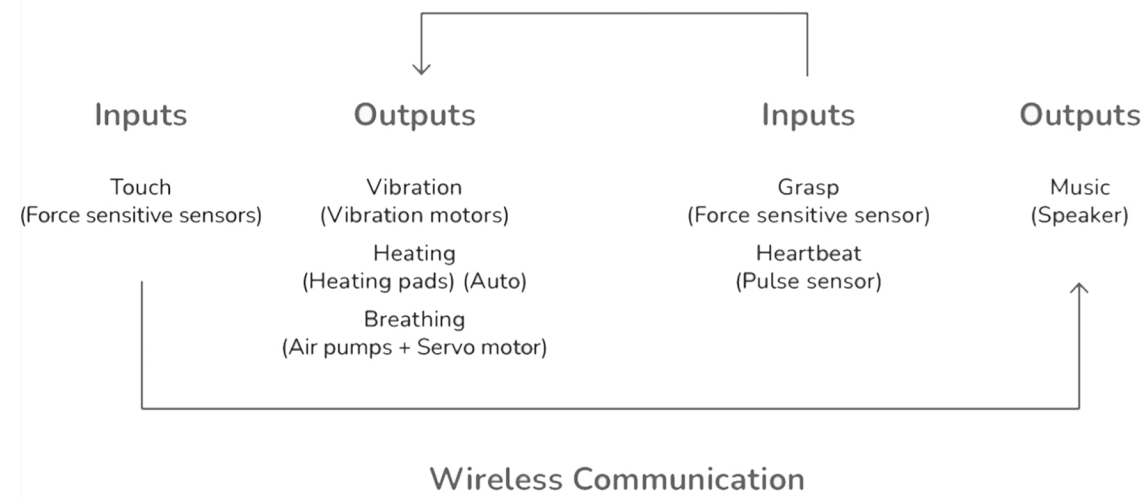
We returned to using vinyl, this time employing a sewing machine to seal sections of the double-layered structure following origami principles. This approach not only provided us with the flexibility to construct intricate geometries but also accelerated the fabrication process.





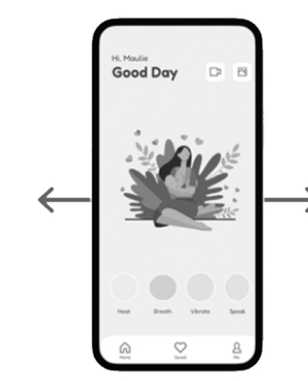
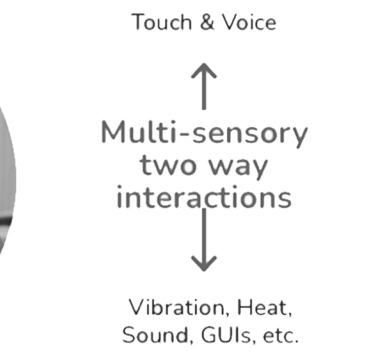
## Blanket for Mothers

## Toy for kids



## Blanket for Mothers

## Toy for kids



## Final Interaction Design.

# Conversational Patterns for LLMs

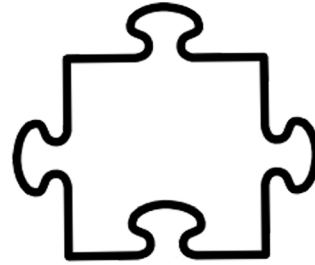
Designing a system to 'componentize'  
conversational patterns for GenAI based  
human-computer interactions

Oracle Corp.  
Conversational UX Design Intern, Summer 23'

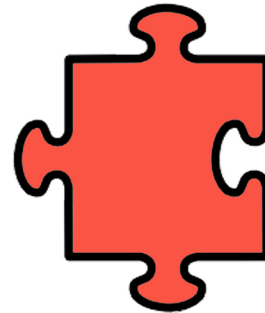




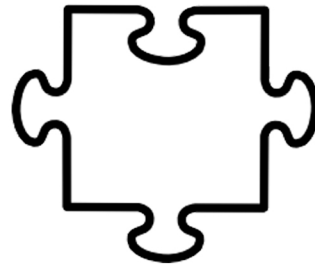
Probabilistic Generation



Conversational Patterns



Holistic Conversations



At Oracle, I worked on reusable conversation patterns in the context of GenAI in general and Large Language Models in particular.

I researched over 22 reusable conversation patterns across 8 conversational assistants in both consumer and enterprise sectors to scope out the most important enterprise patterns that can be useful to the Oracle Digital Assistant (ODA).

These patterns were then studied from the perspective of a LLM. Given LLMs work differently than traditional semantic NLP techniques.

I designed a framework that could breakdown these conversational patterns into 'atoms' that could be retrofitted into the conversational memory of LLMs to illicit certain 'human-like' conversational traits.

These atoms were mainly generalized workflow, identity of the pattern, the technical environment in which they exist, how they are handled normally vs in a LLM and an inference to encapsulate everything.



Generalized Workflow

Identification

Environment

Handling

Inference



# Godspeed

Designing a novel crowdsourced alternative navigation system for safer pedestrian travel.

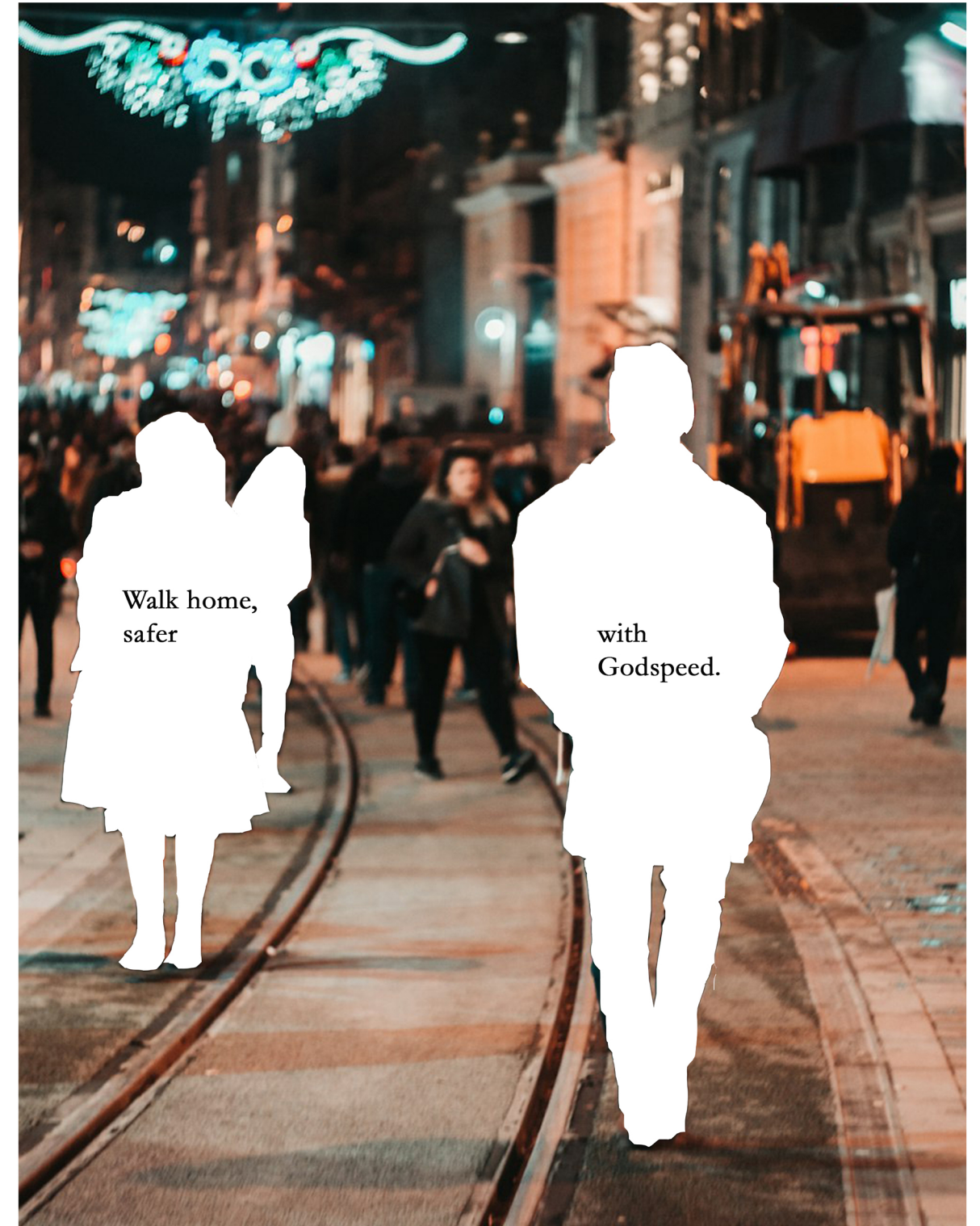
Graduate Thesis,  
UC Berkeley, Master of Design

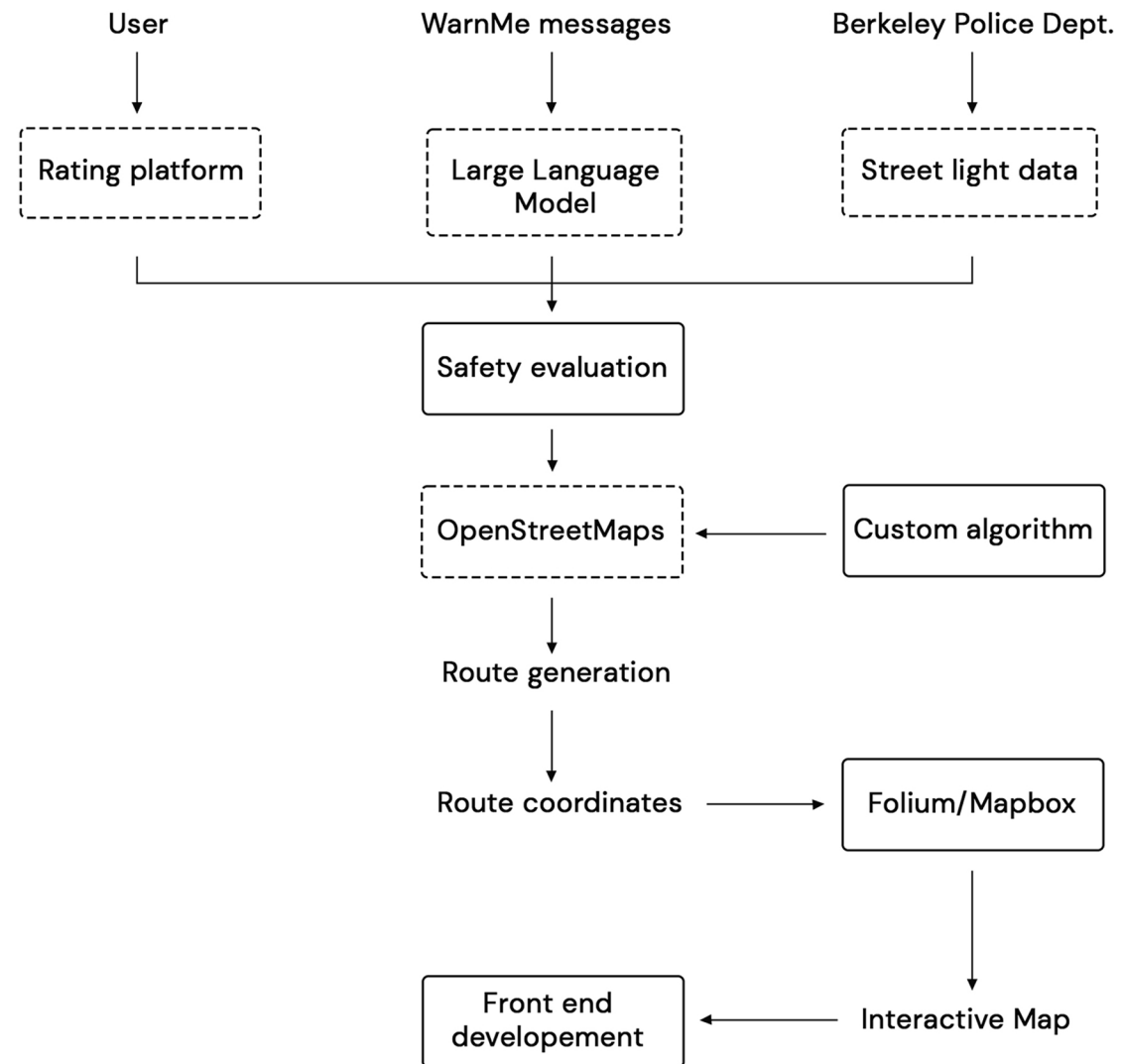
## Introduction

Berkeley faces growing concerns about pedestrian safety, particularly post-pandemic. While violent crime rates remain relatively low, certain crimes have increased. To address this, a project focuses on collecting pedestrian safety perceptions to create a safety-rated map.

A custom algorithm suggests alternative routes optimizing both distance and safety. The challenge lies in defining "perceived safety" and managing biases in crowdsourced data.

The goal is to provide users with safer navigation options, fostering collective responsibility for community safety.





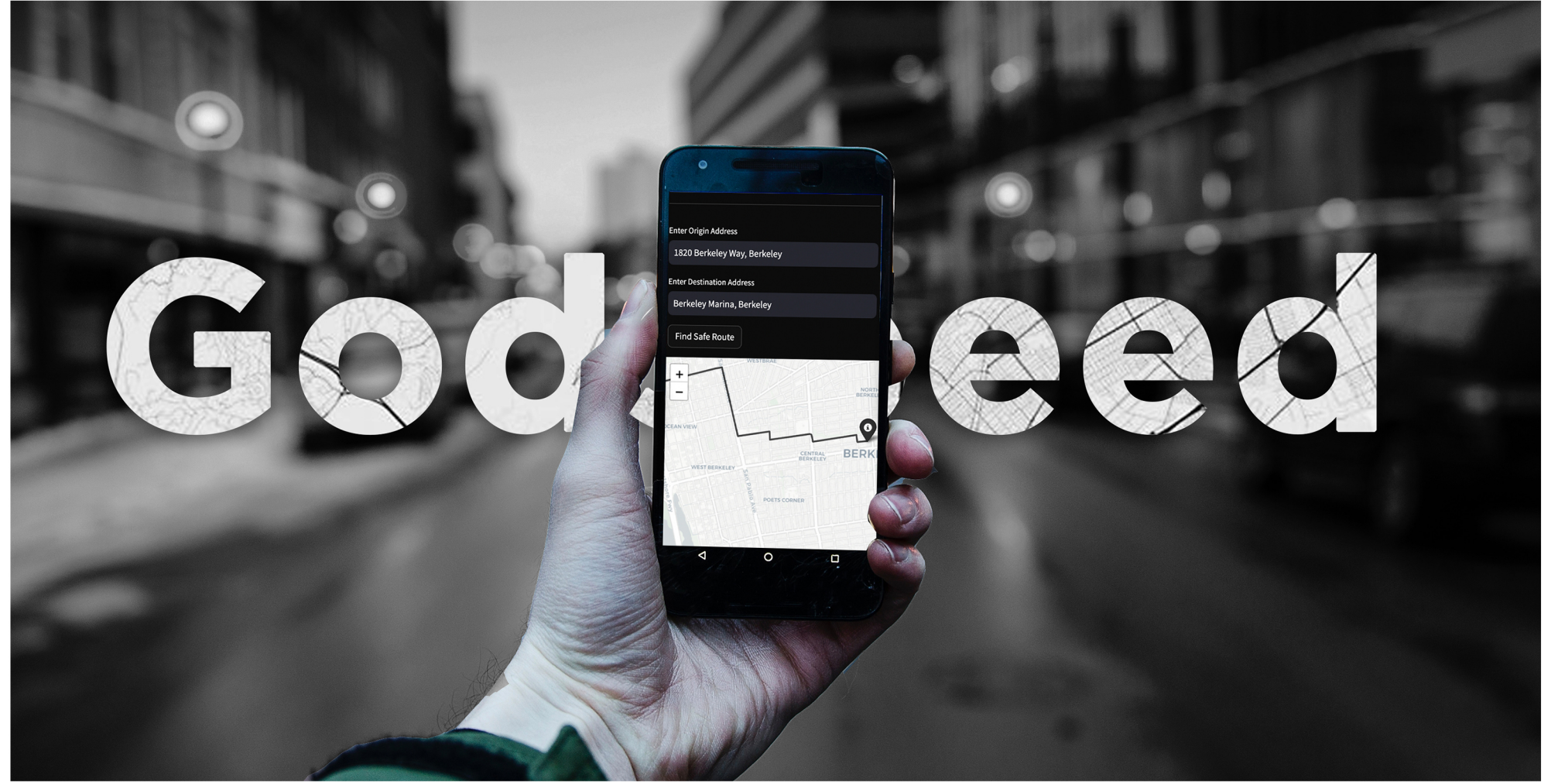
## System map

The project collects safety data about locations in Berkeley from surveys, emergency alerts, and city data. An algorithm uses this data to generate walking routes between locations that optimize for safety and efficiency. A Streamlit web app allows users to get safer routes between addresses and give feedback.





Algorithm design in progress

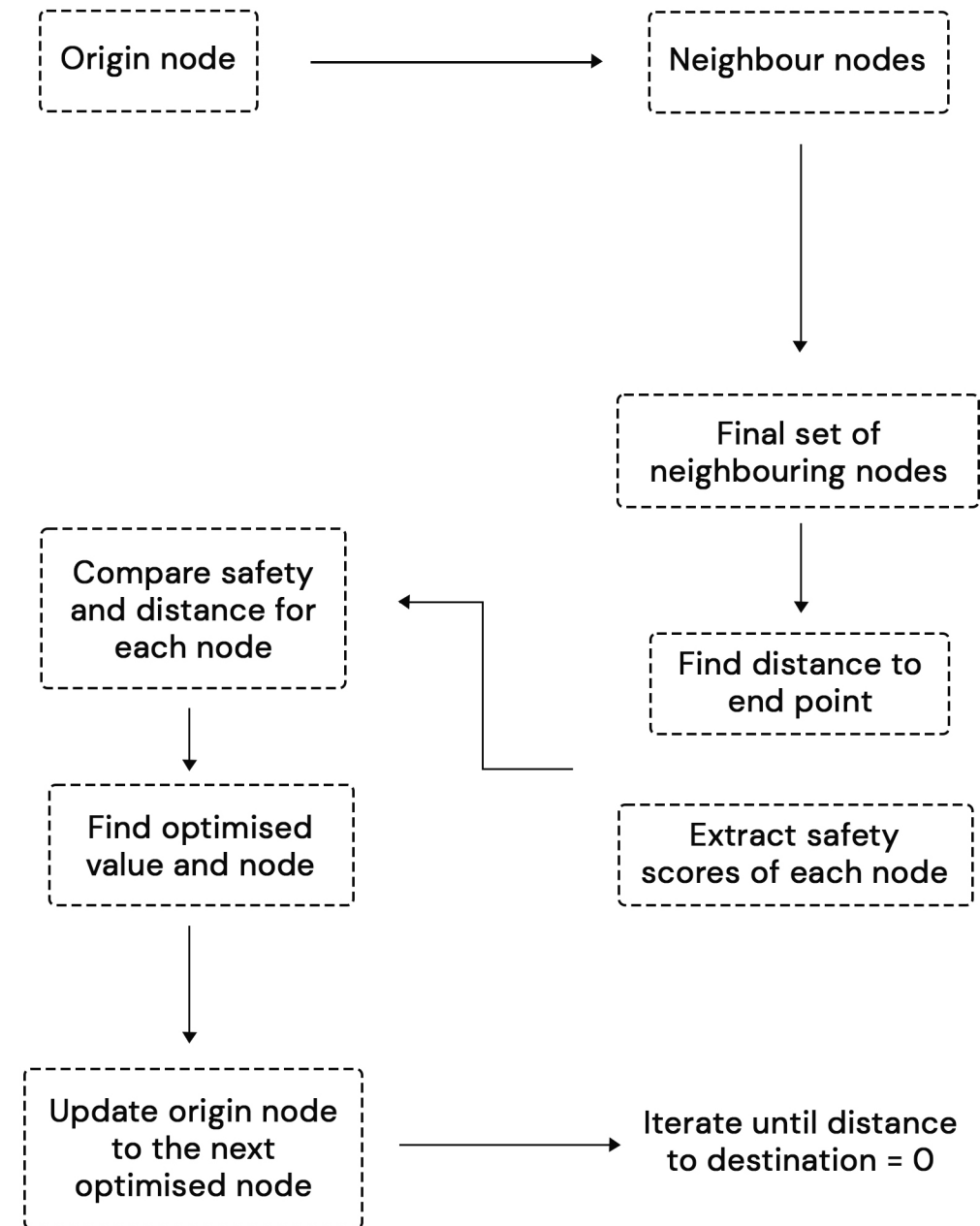


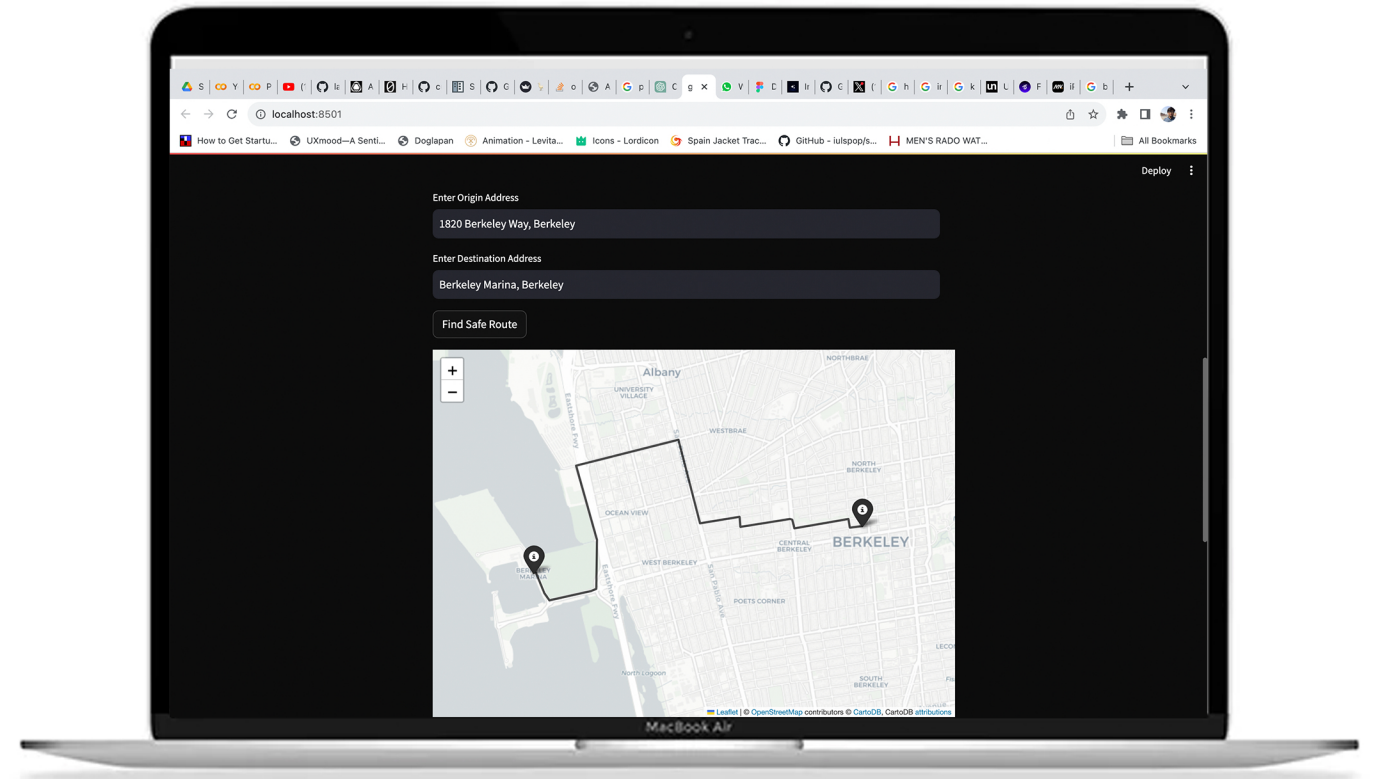
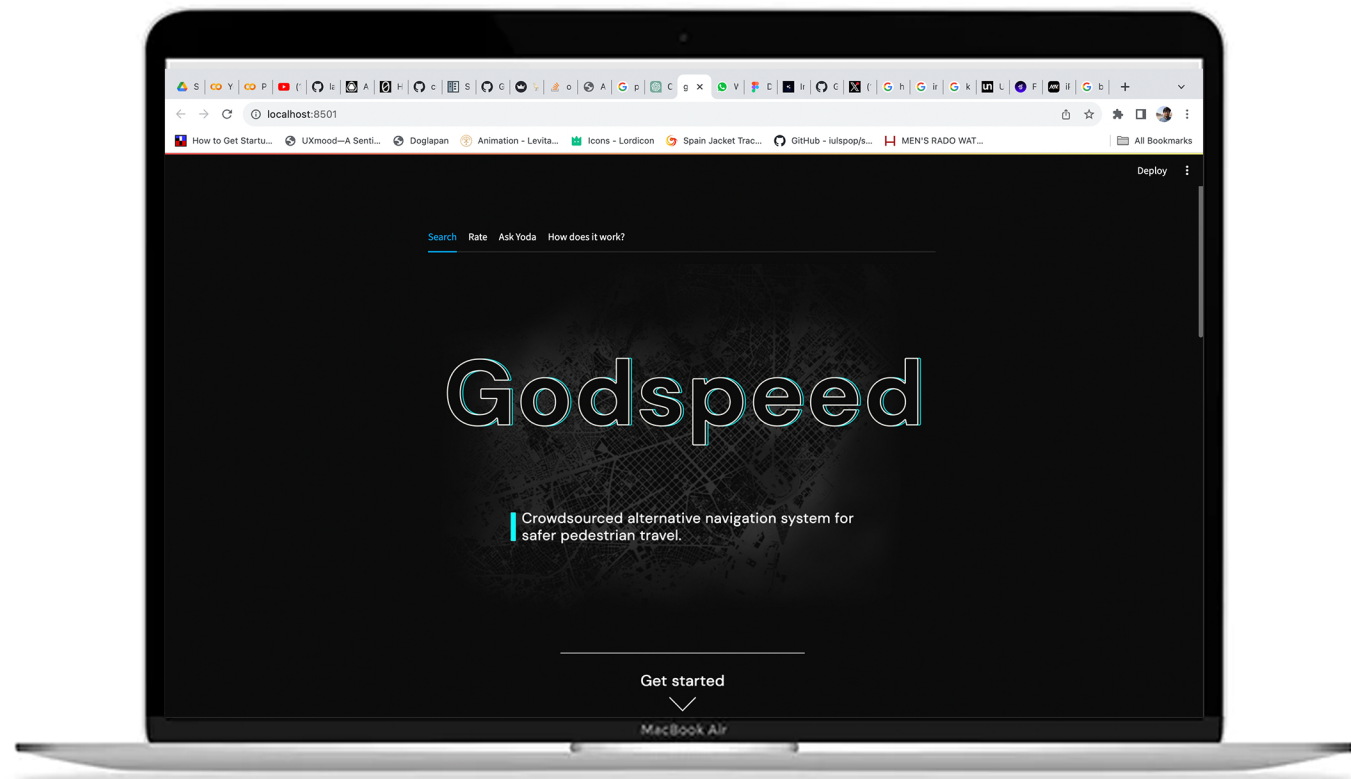
Context of use



# Safe Route Generation Algorithm

The algorithm uses OpenStreetMaps data to build a graph of the city, assigns safety scores to each node, and runs a modified Dijkstra's algorithm to find the route that optimizes for both safety and distance. The route is then visualized on a map using the Folium library in Python.



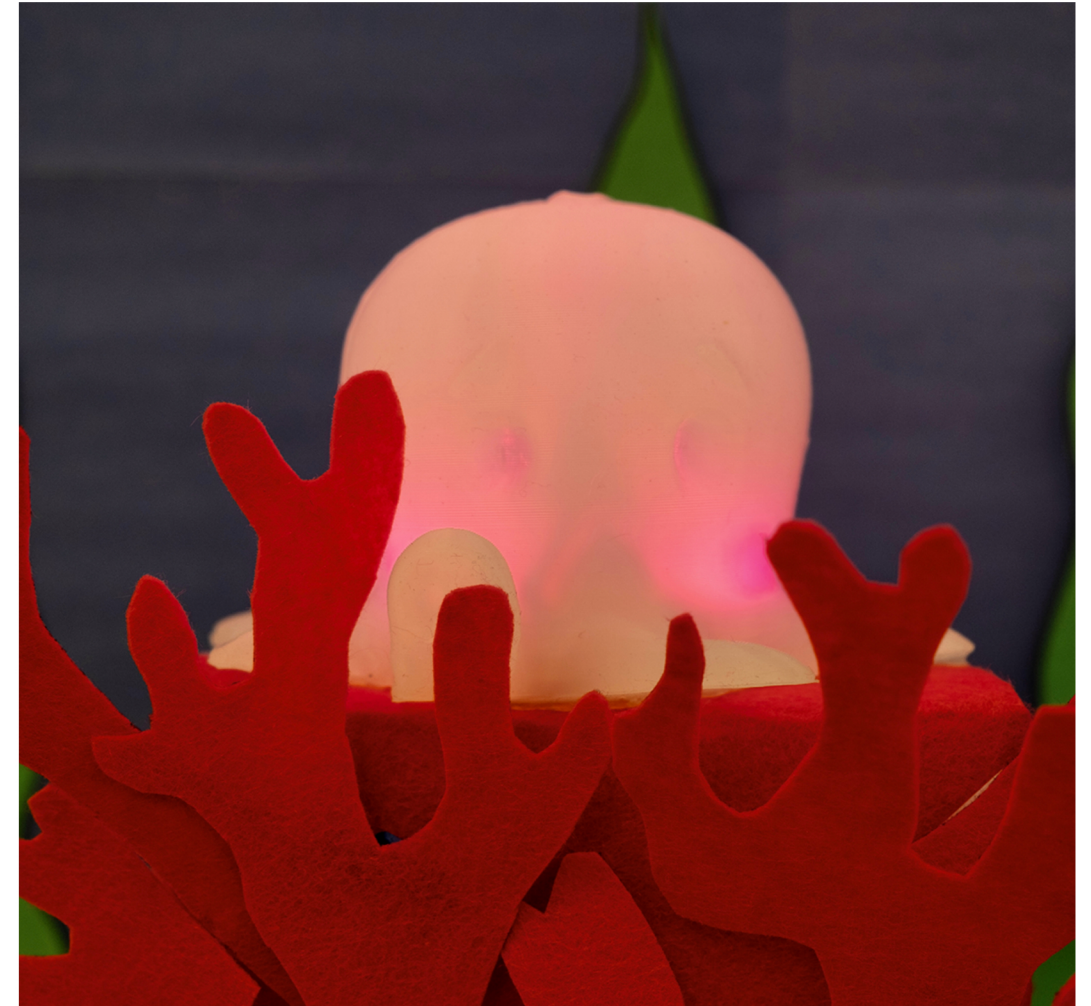


Godspeed interface showing route generation

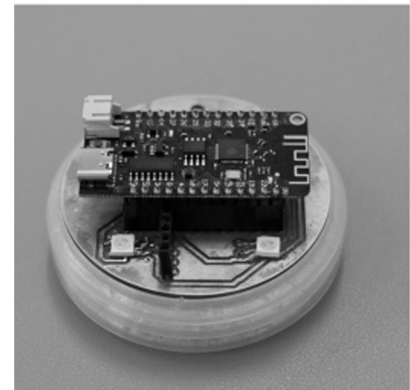
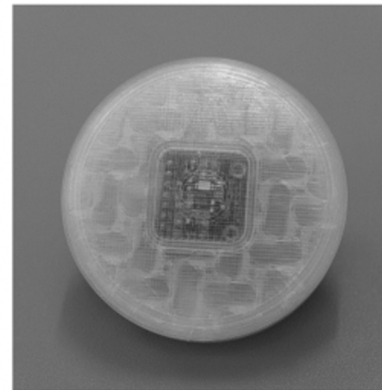
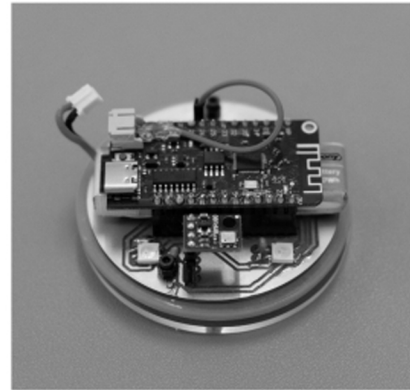
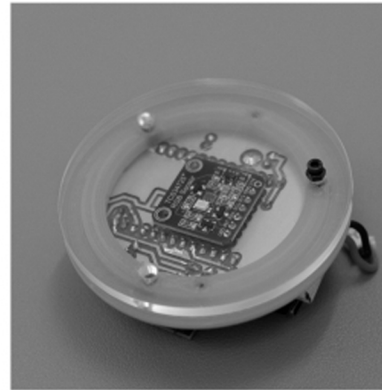
# Okto

Okto is an octopus-shaped, camouflagic bionic robot. As soft robotics, Okto can simulate the way octopus camouflages as a response to danger as part of its resilient and persistent nature.

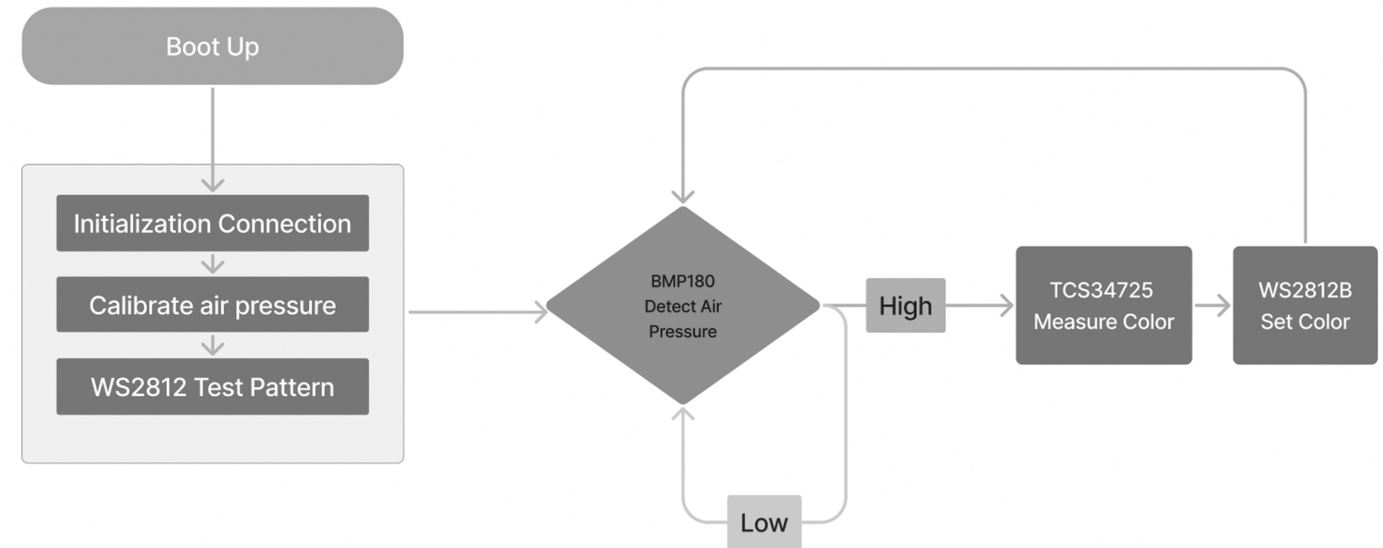
Designing Emerging Technologies,  
UC Berkeley



## PCB development



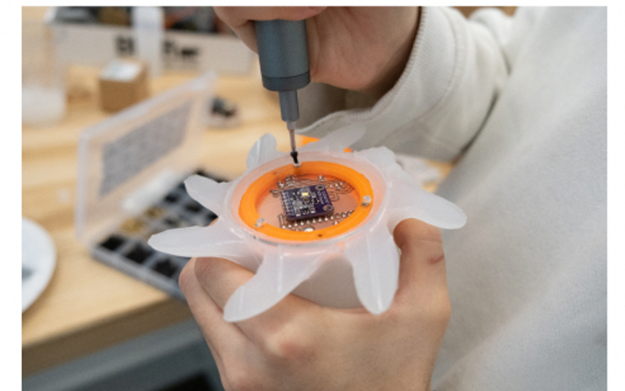
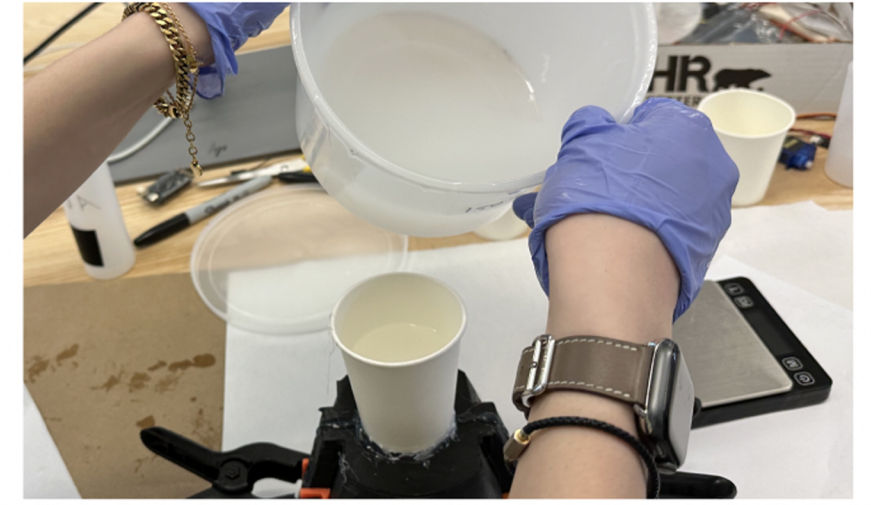
## System map





# Prototyping

We first seal the edges of the mold with a glue gun to avoid leaks. We fixed the 3D-printed mold with pliers. Then we fuse the A/B gel 1:1 at a ratio of 400g each. And a funnel was made on the top of the 3d mold to facilitate the pouring of silicone. After slowly pouring silica gel through the hole, we put the mold filled with silica gel into the vacuum machine to extract the excess air bubbles in the silica gel. Finally, we put the circuit board into the bottom of the octopus, and adjust the position for usable testing.







Molding process



Final product





# Hi I am Samriddho

I am a designer, magician (you read it right!) and tinkerer based out of the Bay Area. I recently graduated from UC Berkeley with a Master of Design. Having explored different realms of design I am excited to design human centred experiences that lie at the intersection of data, AI and community.

Let's connect: [samriddho5@gmail.com](mailto:samriddho5@gmail.com)