

# Soumay Agarwal

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## Education

University of California San Diego

Expected June 2026

*M.S. in Computer Science*

San Diego, CA

University of Arizona

Aug. 2020 – May 2024

*Bachelors of Science in Computer Science — GPA: 3.97/4.0*

Tucson, AZ

*Summa Cum Laude | Global Wildcat Scholar — \$30,000/year award | 2020-2023 Highest Academic Distinction*

## Relevant Coursework

- |                      |                        |                   |                       |
|----------------------|------------------------|-------------------|-----------------------|
| • Web Development    | • Software Engineering | • Algorithms      | • Data Visualization  |
| • Mobile Programming | • Data Structures      | • Database Design | • Recommender Systems |

## Experience

University of Arizona Health Sciences

July 2023 – May 2024

*Software Development Intern*

Tucson, AZ

- Designed and implemented a real-time data streaming dashboard for a research project, leveraging MQTT messaging protocol to collect sensor data and visualizing it through interactive JavaScript-based graphs.
- Worked on hosting the Corelink network framework, licensed under the MIT license, locally at the University of Arizona using JavaScript, to stream real-time data from multiple sensors.
- Conducted testing and validation for multiple sensors and produced comprehensive documentation used by professors to streamline research efforts.

University of Arizona Computer Science Department

Jan. 2022 – May 2024

*Teaching Assistant, Discrete Mathematics for C.S.*

Tucson, AZ

- Provided academic support to 200+ students in Discrete Mathematics, improving their comprehension of key computer science concepts through personalized tutoring and group sessions.
- Collaborated with a team of 11 TAs to evaluate and grade assignments and exams, ensuring consistent application of grading rubrics.
- Developed 50+ exam questions, answer keys, and grading rubrics, contributing to a streamlined evaluation process.

University of Arizona, Lunar and Planetary Lab

Aug. 2023 – December 2023

*Undergraduate Researcher, Asteroids Lab*

Tucson, AZ

- Worked on developing the OSIRIS-Rex virtual reality game with the help of the Unity gaming engine.

## Projects

**Trestaurant** | *Java, Android Studio, Firebase*

- Built an Android app using Java, incorporating the Google Places API for nearby restaurant search, place details, and photo retrieval, providing users with up to 10 images of each restaurant.
- Developed a swipe-based interface based on Tinder (left to dismiss, right to save) for users to explore and curate a personalized list of liked restaurants, enhancing engagement through interactive decision-making.
- Integrated Glide to load and display high-quality restaurant photos and used Google Maps Intents to offer seamless navigation and detailed information for liked restaurants.

**Thrive** | *React, MongoDB*

- Developed using SCRUM, this 4-person project focuses on plant care, allowing iterative progress and teamwork.
- Utilized MongoDB for data storage and Axios for seamless communication between the React front and back end.
- Implemented marketplace interactions and combined them with user sign-up/login, plant directory filtering, personalized gardens, journaling, and reminder settings.

**Soccer Pose Decoder** | *Python, OpenCV, MediaPipe*

- Developed an AI-driven body language detection system using Python, OpenCV, and MediaPipe to analyze real-time video feeds and predict poses of famous soccer players.
- Trained a neural network on celebrity pose data, achieving over 95% detection accuracy.
- Streamlined real-time processing with OpenCV and MediaPipe for efficient pose recognition, enhancing its application in sports analytics and interactive fan experiences.

## Technical Skills

**Languages:** Python, Java, C, HTML/CSS, JavaScript, SQL

**Developer Tools:** VS Code, Eclipse, Android Studio, Unity

**Technologies/Frameworks:** Linux, MongoDB, Express, Node, Firebase, OpenCV, TensorFlow, Keras