

Yusuf Morsi

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<https://github.com/ymorsi7>

Python, C++, Java, C

EDUCATION

University of California, San Diego, Bachelor's of Science Degree

- **Electrical Engineering B.S.** (Oct. 2020 - June 2024)
 - *Depth in Machine Learning*
 - *Minor in Mathematics*
- **Organizations:** ECE Alumni Mentorship Program, IEEE, ECE UG Student Council, CS Foreach, ACM, Jacobs UG Mentorship Program

University of California, San Diego Extension, Certification Programs

- **Android Programming Certification** (Sep. 2021 - June 2022)
- **Front-End Web Development Certification** (Jan. 2020 - Sep. 2020)
- **iOS Programming Certification** (Jan. 2019 - May 2019)

WORK EXPERIENCE

Undergraduate Researcher, UCSD DigiHealth Lab

April 2021 – Present

- DigiHealth is a joint research laboratory of UCSD Design Lab and the Jacobs School of Engineering ECE department.
- Working under the guidance of Professor Edward Wang and his Ph.D. students to develop a wearable health device that measures certain levels of the wearer, such as blood sugar.
 - Wrote **C++** code for **I2C communication**, designed circuits on Eagle, and soldered them.

Software Developer, Project YELLOW

Oct. 2021 – Present

- Developing exclusive social platform where people are only able to add people that they meet in real life by **scanning an NFC chip**. I decided to join this startup part-time for the opportunity to work with NFC chips and mobile app development.
 - Using **Java, Kotlin, and Firebase**.

Researcher, Young Engineer Experience, SDSU Experimental Mechanics Lab

June 2019 – July 2019

- Under the guidance of Professor George Youssef, I researched the **tensile strength of 3D printed ABS ASTM D638 samples** versus ASTM D638 samples created with injection molding.

Mathematics Instructor, Mathnasium

May 2021 – Present

- I instruct elementary, middle, and high school students in areas of mathematics up until Pre-Calculus (~10 hours/week).

PROJECTS

AI Yusuf Discord Bot with Python (PyTorch)

Nov. 2021 – Present

- Used PyTorch to interpret transcripts of conversations and build a chatbot using them. The chatbot will input and output messages to Discord.
- With Python, I created a separate Discord bot that sorts through conversations in a server that I'm active in and generates transcripts.
- ML code has been created. The project is currently in the data collection phase. When complete, the AI Discord bot will be deployed.

Drowsiness Detection with Python (OpenCV) and Arduino

Feb. 2021 – March 2021

- In this project, a colleague and I programmed software that detects when the user becomes drowsy and starts to close their eyes before alerting them with a buzzing noise until they open their eyes again.
 - My work includes writing code that detects eye movement, and writing/editing a report on the project using LaTeX.

HC-SR04 Ultrasonic Security Sensor with MATLAB, Arduino, Eagle, Fritzing

Nov. 2020 – Dec. 2020

- Two other ECE students and I used MATLAB, an Arduino MEGA, LEDs, a buzzer, an IR remote and receiver, and a DHT11 temperature sensor to create a security device. This device not only detects movement, but also determines whether it's caused by a living being.
 - I worked on Arduino/C++ code, the Eagle file, and created the Fritzing file for this project.

LEADERSHIP / AWARDS

- **CS Foreach Early Start Mentor** (2021 – Present)
 - Working with other UCSD students to teach a high school student how to create a [website](#) with HTML, CSS, and JS.
- **UCSD ECE Undergrad Student Council Mentor** (**Member:** 2020 – Present; **Mentor:** 2021 – Present)
 - I meet weekly with first-year ECE students at UCSD to advise them and answer their questions about ECE, classes, and more.
- **IEEE Technical Committee Member - UCSD** (2021 – Present)
 - I work with IEEE to host workshops for UCSD's ECE students (i.e. machine learning Discord bot tutorial with Python).
- **AP Scholar, College Board**, July 2020
- **Student of Distinction / Student Spotlight, UCSD Extension**, July 2020
 - After scoring at the top of my class in my UCSD Extension certification, I was granted this honor and an [article](#) was written about me.
- **President** of high school's **Architecture, Construction, and Engineering Club** in senior year (**Member:** 2016 – 2020)
- **Scholarship for Electrical Engineering, ACE Mentor Program**, May 2020
- **Scholarship for Electrical Engineering, ACE Mentor Program**, May 2019

MORE INFORMATION

- Speaks Arabic at professional working proficiency
- Holds **MATLAB OnRamp** and **Cybersecurity for Critical Urban Infrastructure** certifications
- Experience in 3D printing, CAD, Eagle, Vivado, Fritzing, Multisim, web and app development, and more