

Yusuf Morsi

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<https://github.com/ymorsi7>

Python, C, C++, Java

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.
 - Contributions include writing Arduino/C++ code for I2C communication, designing circuits on Eagle, and soldering 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

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).

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.

PROJECTS

AI Yusuf Discord Bot with 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 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, worked on 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