NICK Q. BUI

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EDUCATION

University of California, Berkeley - Berkeley, CA — Aug 2023 - May 2027
BS, Electrical Engineering and Computer Science

- GPA: 3.54
- Relevant Coursework: Intro to Programming (CS 61A), Data Structures and Algorithms (CS 61B), Circuits and Linear Algebra I/II (EECS 16AB), Principles of Business (UGBA 10), Tech Entrepreneurship (ENGIN 183B)

SKILLS

Software Java, Python, SQL, C++, HTML/CSS, LaTeX, Git, Google Firebase, Android Development
Hardware Autodesk Fusion, Solidworks, Circuit Design/Analysis, Electronics Design/Prototyping

EXPERIENCE

Robotics Engineer, Electrical and Software Subteam — Sep 2023 - Present
Combat Robotics at Berkeley — *Berkeley, CA*

- Designing and manufacturing the electronics system (weapon and drive) of "Whisk" (15-lb combat robot) by integrating prefabricated electronic components such as ESCs, brushless motors, transmitters, and receivers
- Assisting the mechanical subteam by contributing to material selection, mechanical design choices, and 3D modeling for the chassis/weapon using Autodesk Fusion
- Developed spreadsheet tools to automate engineering calculations (RPM, voltage/current/Kv, gear ratios) and track material characteristics (cost, quantity, dimension, weight) which streamlined our prototyping process while ensuring that our robot conforms to budget, dimension, and weight constraints

SIMR Bioengineering Intern — May 2022 - Aug 2022
Stanford University School of Medicine — *Palo Alto, CA*

- Prototyped a wireless sleep apnea diagnosis system by integrating prefabricated electronic sensors and microcontrollers (pulse oximeters, accelerometers, temperature sensors, Arduinos) into modular biometric sensor units
- Programmed sensors in C++ to measure sleep data (movement, respiration rate, heart rate, blood oxygen percentage) and use BLE protocol to transmit measurements to mobile devices for real-time data visualization
- Ran extensive cross-comparison accuracy tests between our sensors and state-of-the-art biometric sensors, ultimately achieving over 97% sensor accuracy
- Designed and fabricated resin enclosures for our sensors using Autodesk Fusion and 3D resin printers at Stanford's Product Realization Lab

PROJECTS

ASLens Prototyped a machine learning-based ASL interpretation device using Autodesk Fusion, Raspberry Pi, OpenCV, and Python. Users can form ASL signs and the device uses an LSTM to translate the signs into audible speech. The project won 4th place at the 2023 MESA National Engineering Design Competition.

Emoticam Developed a computer vision-based, accessible, hands-free, digital communication tool using OpenCV and Python to convert hand gestures and facial expressions into corresponding emojis and keyboard characters. The project won 1st place at the 2022 Los Altos Hackathon, qualifying my team for Pinnacle 2023, the Olympics of Hackathons.

FinanceLingo Created a financial education Android app using Java, Android Studio, and Google Firebase. Users learn about personal finance through fun and interactive activities while their progress is stored and accessed in real-time through our cloud database. The project was submitted to the 2022 Congressional App Challenge and was awarded the Certificate of Special Congressional Recognition by Rep. Ro Khanna.