

Adarsh Murugesan

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EDUCATION

California Polytechnic University San Luis Obispo

San Luis Obispo, CA

B.S. in Computer Science

Expected graduation: June 2027

WORK EXPERIENCE

Neurocom

San Luis Obispo, CA

Software Engineer

September 2024 - Present

- Developing haptic technology to enhance communication and safety for the military and first responders
- Created custom ATAK plugins using Android Studio, Kotlin, and Java, integrating real-time haptic feedback to enhance situational awareness in the device.
- Optimized firmware for haptic feedback systems, enhancing response accuracy in mission-critical scenarios.

North Carolina State University

Raleigh, NC

Data Engineer

Summer 2022

- Created data analysis models using HTML, CSS, and R to graph trends with Raleigh corpus data; discovered new trends within vowel formants through models
- Utilized ggplot2 and shiny packages in R to create interactive, web-based visualizations
- Collaborated with NC State grad students to build award-winning anatomically-accurate robotic tongue designed to teach undergraduate linguistic students tongue anatomy
- Applied clustering algorithms to group similar vowel formant patterns, identifying unique acoustic properties

UCSC Computer Vision Lab

Santa Cruz, CA

Research Intern

Summer 2023

- Developed object detection application to detect speech sounds using ultrasound images of the tongue; improved speed of manual linguistic data annotation by 75%
- Collaborated with PHD student to build a convolutional neural network used in 8 citizen science apps; used TensorFlow Lite to optimize the CNN model for mobile and edge devices
- Used labelImg and tensorflow softwares to label the data and train the object detection model
- Applied hyperparameter tuning to achieve over 90% precision in detecting speech sounds

LEADERSHIP

Sprouting Youth Foundation: 501(c)3 non-profit

Fremont, CA

Founder

August 2021 - Present

- Founded SYF; Teaching Public Speaking, Engineering & Robotics to 5,000+ students across the bay area
- Developed curriculum for Elenco Electronics used by 15,000+ students through homeschooling programs
- Established SYF YLCP club chapters/programs in 20+ schools globally

PROJECTS

Arbitrage Betting Script

Summer 2024

- Created a tool that analyzes real-time sports betting odds to find arbitrage opportunities within the market
- Developed an algorithm that calculates all possibilities of odds in low time complexity with 20% faster processing times than other arbitrage finders

Language Translator Device

Summer 2022

- Configured the Raspberry Pi with a microphone and speaker setup for real-time audio input and output using GPIO pins and USB connections.
- Implemented an audio processing pipeline using pyaudio and utilized the Google Media Translate API for speech-to-text (STT) and text-to-speech (TTS) processing

SKILLS

- Programming: Python, Java, HTML/CSS, JavaScript, R, React.js, Typescript, SQL, Kotlin, Full-Stack Dev
- Developer Tools: TensorFlow, labelImg, Git, Android Studio, Emulators, RESTful APIs