Abril Aguilar Lopez

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Computer Science student interested in applying CS in interdisciplinary fields and projects. I am able to effectively self-manage in independent projects, as well as collaborate productively in a team. My intrests include computer architecture and low level programming, as well as brain computer interface programs and signal processing.

Skills `Communication` `Project Management` `Teamwork` `Initiative` `Adaptability`

Proficient: Javascript, Node.js, React/React Native, C/C++, Python, Linux/Unix, Git, HTML&CSS
Familiar: Lisp, Bootstrap, SQL, MatLab, Assembly **Databases**: Firebase Realtime Database, MongoDB

Experience

Co-Researcher, University of California, San Diego

2019 – February 2021, Escondido, California

- Worked with a team of co-researches on the UCSD, CREATE project entitles CS-LISTEN, a youth proprietary action research project to investigate the lack of diversity of K-12 computer science education, in both a team setting and as a leader.
- Our research provided the surveyed school with reccomenced and later implemented changes to respond to our findings; such changes persist.

Education

Bachelors of Science, University of California, Los Angeles

- Computer Science, June 2025 (Expected)
  - Member of Crux, IEEE, and SWE
  - Selected Coursework: Software Construction, Operating Systems Principles, Data Abstraction, Data Structures and Algorithms, Algorithms and Complexity, Discrete Structures, Computer Networking, Principles and Practices of Computing

Projects

- BCI Tinder - Crux Neurotech at UCLA, 2022-2023
  - *Implemented a brain computer interface that detects attraction valence based on alpha waves*
  - *Utilized a varietey of techniques to isolate alpha waves, including FFT algorithm and bandpass filters, and multiple preprocessesing filters*
  - *Led the programming-focused members of the team, managing tasks and the shared remote Git repository*
  - Technologies used: Open BCI GUI, Open BCI Headset and Cyton Board, `Python` (`neurokit 2.0` and `numpy`), MatLab
- Micromouse - IEEE at UCLA, 2022-2023
  - *Aimed to build an autonomous robot with the ability to solve a 16x16 maze*
  - *Used a various techniques and disciplines, ie. PID algorithms, maze solving algorithms, and electrical engineering practices*
  - *I acquired skills in lower level interactions between software and hardware, as well as creating and organizing board schematics, and working as a team leader*
  - Technologies used: `Eagle` , `STM Cube IDE` , `C/C++` , variety of parts for creating the mouse PCB board
- Substance Tracker App - UCLA, 2022-2023
  - *Developed an ios app for users to track and view substance use, with data stored and accessed on a remote database, requiring user authentification*
  - *Worked in a team setting, efficiently creating and assigning front-end and back-end specfic tasks, utilizing version control with git for development concurrency*
  - Technologies Used: `JavaScript` , `Node.js` , `React` , `React Native` , `Firebase` , `Expo Client` , `Expo Go` , `Git` , `GitHub`

Awards & Recognition

- **National Center for Women & Information Technology AiC High School Award:**
  - Awards Recieved: *AIC National Honorable Mention 2019*, *AIC Regional Award 2020*
    - Recognized for demonstrated interest and achievements in computing.
    - Acknowledged leadership ability, academic excellence, and future plans in education.