

Eduardo Chavez

U.S. Citizen • echavez9@ucsc.edu • (310) 715-9524 • linkedin.com/in/chavezed/ • github.com/chavezed/

EDUCATION

Bachelor of Science, Computer Science

University of California, Santa Cruz

September 2016 – June 2019

Associate of Science, Mathematics, Physics and Pre-Engineering

El Camino College, Torrance, California

February 2011 – June 2016

Dean's List: Fall 2013, Fall 2014, Spring 2015, Fall 2015

COMPUTER SKILLS

Operating Systems: Unix, Windows, macOS

Languages: C, C++, Python, Java, JavaScript, PostgreSQL

Tools: GDB, GitHub, Visual Studio, VS Code

EXPERIENCE

MESA (Mathematics, Engineering, Science Achievement) Program Specialist

October 2018 – Present

El Camino College, Torrance, California

- Improved and automated database updates to ensure the accuracy of data for future state reports
- Engaged and supported first-generation community college students pursuing higher education in STEM fields

Computer Science Tutor

October 2018 – March 2019

El Camino College, Torrance, California

- Reinforced students' understanding of computer science fundamentals, data structures, and object-oriented design
- Assisted students with finding efficient ways to solve programming assignments and generate code

Research Intern, Transfer Student Summer Research Program

June 2015 – August 2015

University of California, Los Angeles

- Analyzed the impact of image formats on flash storage efficiency using applications developed in C++
 - Created presentations on a biweekly basis to share research progress with mentor and PI
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TECHNICAL PROJECTS

Database Management System Design

- Implemented a relational database management system in C++ which uses a paged-file system to handle operations on records, tables, and B+ tree indexes
- Designed a query manager to handle relational selections, joins, condition-based updates and delete operations

Unix Shell Simulator

- Simulated an in-memory Unix shell using C++ where files and directories are maintained in a rooted tree structure
- Implemented to support the following shell commands: cat, cd, echo, exit, ls, lsr, make, mkdir, pwd, rm, and rmr

Reverse-Polish Calculator

- Implemented in C++ which involved overloading integer operations to perform arbitrary precision integer arithmetic in the style of the Unix operating system command, dc (desk calculator)

Guitar Multi-Effects

- Developed a modularized application in Pure Data to modify guitar audio input
 - Implemented a headless Raspberry Pi to run guitar multi-effects application to provide the user with a low cost alternative of purchasing multiple guitar pedals
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AWARDS

National Science Foundation (NSF) Scholarship Recipient: Fall 2014, Fall 2015

- 2x recipient for NSF Scholarship based on strong academic standing and level of participation in MESA (Mathematics, Engineering, Science Achievement) and SSS-STEM (Student Support Services) programs
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RELEVANT COURSEWORK

Analysis of Algorithms

Comparative Programming Languages

Advanced Programming in C++

Compiler Design I

Database Systems I & II

Operating Systems

Computational Models

Algorithms & Abstract Data Types

Computer Architecture

ADDITIONAL SKILLS

Languages: Fluent bilingual in Spanish