
EDUCATION

Bachelor of Science - Computer Engineering
University of California - Davis 3.1 GPA

Expected in December 2021

Associate of Science - Mathematics
Yuba College - Marysville, CA 3.6 GPA

May 2019

RELATED COURSES

Advanced C/C++, Data Structures, Power Electronics, Embedded Systems, Operating Systems, Technical Writing, Computer Networks, Digital Systems, Device Physics, Signal Analysis, Algorithm design, Linear Algebra, Chemistry, Multivariable Calculus, Electromagnetism, Thermodynamics, Circuits, Differential Equations.

SKILLS

Software: C/C++, Verilog, Python, HTML, CSS, JavaScript, React, Visual Basic, RISC-V, x86 Assembly, git, PSpice, MongoDB, MATLAB, PCB Altium design, object-oriented programming, Debugging, Microsoft Excel

Hardware/Firmware: Arm Architecture, I2C, SPI, Bluetooth and WIFI communication, PSOC 6, CC3200, FPGA, Arduino, Raspberry, AWS

Interpersonal Skills: Leadership, Problem Solving, Communication, Teamwork

Languages: English, Punjabi, Hindi

PROJECTS

ICOLLAR (Senior Design Project) • *University of California - Davis* 09/2020 to 03/2021

- Developed a smart dog collar device that monitors the dog's daily activity.
- Implemented code for GPS module to pin the location and show the path to a dog on the map in the iOS app. Special alert in form of notifications is sent when the dog leaves the radius of the house.
- Implemented code for display using serial communication I2C which provided on board interface for the user.
- Constructed PCB prototype using Altium Design and delivered a technical report in IEEE format.

Simple Linux Operating System • *University of California - Davis* 01/2021 to 04/2021

- Built a simple shell which accepted and executed user input in the form of command lines similar to Bash and zsh.
- Implemented a user-level thread library for Linux. The library provided a complete interface for applications to create and run independent threads concurrently.
- Created an entire FAT-based (File Allocation Table) file system software stack: from mounting and unmounting a formatted partition, to reading and writing files, and including creating and removing files.

IBM Robot arm • *Yuba College- Marysville, CA* 01/2019 to 05/2019

- Implemented control functions to make the robot draw the given image.
- Created math libraries in C++ for interfacing the robot hardware. The libraries allowed the robot to determine its current position and how much it needs to turn in order reach to a specific point.
- Developed debugging, time management, and problem-solving skills.

Weather Monitoring Device • *University of California - Davis* 01/2021 to 03/2021

- Implemented RESTful API on TI-CC3200 board to provide the real-time temperatures of any city.
- Created user friendly interface for the display using SPI protocol to show and get data from the user.
- Implemented code to let the board connect to WIFI, open-source Weather API, and AWS. The device collects requested data from the Weather API. It delivers the data to the display where user can decide to send it subscribed email list using AWS cloud.

WORK HISTORY

STEM Tutor • *Yuba College - Marysville, CA* 01/2017 to 05/2019

- Assisted students in finding useful study methods to enhance academic performance.
- Provided one-on-one and group tutoring in Math, Physics, and Computer Science.

Physics Teaching Assistant • *Yuba College - Marysville, CA* 08/2018 to 05/2019

- Graded tests, quizzes, and homework with faculty and provided feedback on errors for students to correct.