Gaurav Bhalla

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EDUCATION

Texas A&M University, College Station, Texas

Bachelor of Science in Computer Engineering with Engineering Honors — May 2022
Minoring in Mathematics — Cumulative GPA: 3.7

Related Coursework

Digital Design, Computer Architecture, Microprocessor System Design, CMOS VLSI design, Circuit Theory, Introduction to Analog Design, Data Structures & Algorithms, Communications & Cryptography, Programming in C++, Programming in Python.

EXPERIENCE

ASIC Validation Engineer, Texas A&M — Jul. 2020 – Present

- Testing the accuracy of an ASIC designed to detect alpha particles.
- Validated a custom PCB designed to interface the ASIC to a computer via a microcontroller board.
- Analyzed the PCB layout file of the custom PCB in Autodesk EAGLE.
- Found and addressed functional issues with the PCB.
- Developed an Arduino program to provide stimulus to and receive data from the ASIC.
- Solved interface logic-level compatibility issue with a TI 74LVC245 Logic Level Shifter.

Software Engineering Intern, Parkland Center for Clinical Innovation — June 2020 – Aug. 2020

- Developed a full-stack MVP web application with Flask, HTML, CSS, and JavaScript.
- Followed the OAuth2.0 protocol to implement the Azure AD REST API which authenticates company users.
- Deployed on an Azure Linux VM with the Gunicorn WSGI and Nginx reverse proxy servers.

Aggies Invent: Invent for the Planet 2020 Participant, Texas A&M — Feb. 2020

- Designed the front-end for an app called EZ-Vac.
- Plans an optimal evacuation route for an individual with the Google Maps API during a flood or earthquake based on user-submitted data and data from the FEMA database.
- EZ-Vac would also be designed to work without internet by texting screenshots of the route with the Twilio API.

IEEE TAMUmake 2019 Participant, Texas A&M — Jan. 2019

- Created a Checkmate algorithm in Python 3.6 for a virtual chess board as part of a four-member team.
- Also, helped to program a four-digit seven display to be a timer with the Arduino IDE.
- Also helped implement use of the OpenCV API to recognize chess pieces and their positions on the chess board from the pictures taken by the Arduino camera shield.

INVOLVEMENT

Texas A&M Amateur Radio Club — Oct. 2019 – Present

- Introduced to smith charts and other RF concepts at Keysight Technologies seminar.
- Passed FCC Technician licensure exam, so am licensed to communicate over certain frequency bands.
- Currently, working on building an AM crystal radio receiver and achieving my FCC General and Extra licenses.

Texas A&M Corps of Cadets — Aug. 2018 – May 2019

- Learned to overcome adversity with time management, perseverance, and rational thinking.
- Employed the techniques of the Corps Sophomores to become more self-disciplined and a better leader

SKILLS

Advanced knowledge of ARMv8 Assembly, C++, Python, Verilog HDL, LTSpice, TinkerCAD, Flask, SQL, HTML, and JavaScript. Intermediate knowledge of NI Multisim, Autodesk EAGLE, soldering and welding. Intermediate fluency in spoken and written French and in spoken Hindi. Basic knowledge of Radio Frequency Engineering.