

ABISHEK VENKIT

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| github.com/abishekvenkit

SUMMARY

Current undergraduate pursuing a B.S. in electrical engineering, with interest and skills in software development, signal processing, hardware design, and project management. Seeking an internship in software or hardware.

EDUCATION

University of Illinois at Urbana-Champaign

Expected Graduation: May 2020, Continuing to Masters

Bachelor of Science in Electrical Engineering, Minor in Computer Science

GPA: 3.92/4.0

Honors: Chancellor's Scholar, Dean's List

Relevant Coursework: Digital Signal Processing (ECE 310)
Digital Systems Laboratory (ECE 385)
Electronic Circuits (ECE 342)
Multimedia Signal Processing (ECE 417)

Data Structures (CS 225)
Analog Signal Processing (ECE 210)
Computer Systems Engineering (ECE 391)
Artificial Intelligence (CS 440)

PROFESSIONAL EXPERIENCE

Apple

Culver City, CA

Audio Software Engineering Intern

May 2019 – August 2019

- Worked in the Beats Audio Validation team, developing tools to tune and design headphone microphones
- Built an IIR biquad filter design tool, using Python for signal processing and PyQt for the user interface, which allows users to visualize and design filters, export them for collaboration, and filter multichannel sound files
- Developed a calibration and testing framework to configure an 8-speaker array inside an anechoic chamber
- Interacted with soundcard, microphone, and speaker hardware, using PyAudio and sounddevice modules for automation

Capital One Software Engineering Summit

Arlington, VA

Participant

January 2019

- Completed workshops in Android development, Alexa skills, Arduino hardware, AWS, and web development
- Created a web application and Alexa skill to retrieve coupons based on location, using Vue.js for the front end, and Python Flask and Firebase for the backend; the application interacted with the Groupon and Nessie APIs

Argonne National Laboratory

Lemont, IL

Research Intern

June 2017 - August 2017

- Utilized an electromagnetic solver, NekCEM, meshing and modifying source code to simulate flat meta-lenses
- Programmed in a Linux terminal, using Python, Bash, and MATLAB to create scripts for automation and validation
- Collaborated with other developers in Argonne's Math and Computer Science (MCS) Department

PROJECTS

FPGA Super Hexagon Game

Champaign, IL

Course Project

April 2019

- Created a replica of the game "Super Hexagon" on the Altera DE2 Board, interfacing an FPGA with a VGA monitor and USB Keyboard, to create a complete game with multiple levels and difficulties
- Programmed graphics and game logic in SystemVerilog (state machine and complex geometric visual effects) and created a NIOS-II SoC to handle I/O, working in Quartus prime for programming/compilation and ModelSim for simulation

LED Audio Visualizer

Naperville, IL

Personal Project

May 2018 – June 2018

- Interfaced a programmable LED strip with an Arduino, creating a microphone amplification circuit and AUX input circuit
- Optimized Arduino code and implemented DSP techniques by using an FFT library to sample music, retrieve frequency information, and efficiently map to a 300 LED display
- Constructed hardware to house electrical components, and soldered a circuit board to configure LEDs, implement an op-amp powered microphone, and switch between device modes

LEADERSHIP & ACTIVITIES

ECE Pulse Tech Conference (2020)

Champaign, IL

Director

March 2019 - Present

- Facilitated the organization of the Pulse Tech Conference, an event hosted by the Electrical and Computer Engineering (ECE) Department, projected to bring in over one thousand students
- Managed a group of 12 other executive board members, holding weekly meeting and efficiently delegating the workload
- Created a corporate package, directed marketing efforts, planned events, and led the organization's 50+ members

SKILLS

Languages: Python | C | C++ | SystemVerilog | Arduino | HTML (Familiar) | MATLAB (Familiar)

Tools: Linux | Git | Flask | AWS | Quartus Prime | ModelSim | Audio Precision Software