Mazen Ghosn

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Education

University of California, Irvine (September 2018 – June 2022)
B.S. in Computer Science and Engineering

- Dean's Honor List: Fall 2019, Winter 2021, Spring 2021 (GPA 3.39)
- Coursework: Data Structure Implementation/Analysis, Electronic Devices and Circuits, Embedded Software

Work Experience

Brag House – Software Engineering Intern (February 2021 – Present)

- Collaborated with tech lead to develop and redesign screens and navigators for a web app on iOS/Android
- Introduced new feature concepts for the web app to allow for data analysis and better application cohesion
- Tested and debugged app builds using Android Studio's phone emulator, expo, and metro
- Participated in Agile development to design, implement, and review code on a team
- Managed a coding team to invent a Discord bot in Python on AWS to simplify tournament setup
- Initiated documenting all code to streamline onboarding process for new developers
- Mediated time-consuming tasks from other teams through automation with Python scripts

Academic Projects

Dictionary Chatbot AI | Python

- Constructed a chatbot able to process natural language and identify an unknown word, then provide definitions, synonyms, antonyms, or examples of the word through the Merriam Webster API
- Optimized original CYKParse algorithm from $O(n^3)$ with a custom parsing algorithm that is O(n)
- Established a Bayesian network to synthesize context of previous statements to answer future requests

Padlock Embedded System | C

- Designed and implemented hardware for a padlock on a breadboard with an LCD, keypad, speaker, and LEDs
- Modified internal timings of an ATmega32 microcontroller through Microchip Studio and an 8 MHz crystal
- Redesigned project concepts with alternate hardware and utilized datasheets to code at a low-level

Multithreaded Device Network Simulation | Java

- Created a multithreaded simulation of a device network with multiple users, disks, and printers
- Constructed a personalized GUI for the simulation using Swing to demonstrate device use
- Devised an algorithm to maximize efficiency of threads and prevent producer/consumer problem

Development of a Pipelined Processor | Verilog VHDL, MIPS

- Engineered a processor and joined basic components (adders, multiplexers, etc.) using combinational logic
- Integrated processor components and pipelined it; tested and verified simulations with waveforms in Vivado
- Converted code written in MIPS directly into machine code to better understand registers and set instructions

Personal Projects

Media Server

- Built and hosted a custom server out of older desktop computer parts for video games, hosting media, and other personal projects (website, iMessage on Android, etc.)
- Opened alternate ports and employed tools such as No-IP to allow clients to connect without a direct IP address
- Fully automated the server to restart, log in, and launch specific programs using batch scripts

Additional Skills

- Python, C++, C, Java, Lisp, Prolog, JavaScript, Verilog VHDL, MySQL, Bash, Batch, RISC-V, MIPS
- Comfortable using git and GitHub to create new branches, find and mark issues and push and pull
- Familiar with software such as Microsoft Office, Google Workspace, JetBrains, as well as Windows and Linux
- Adapted to working with low-level software such as UEFI/EFI bootloaders and BIOS
- Involved in the Women in Information and Computer Sciences club at UCI