VANESSA ZAMBRANO

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EDUCATION

Bachelor of Science with Honors in Computer Science Expected Graduation: Dec 2022
University of Houston

- Cumulative GPA: 3.76 | Key Coursework: Data Structures and Algorithms, Operating Systems, Computer Architecture
- Dean's List for Fall 2019, Spring 2020, Fall 2020, and Spring 2022

WORK EXPERIENCE

Software Engineering Intern | *High Performance Computing and Artificial Intelligence* May 2022 – Dec 2022
Hewlett-Packard Enterprise, Seattle, WA

- Wrote unit tests using Jest for user interface infrastructure and MVP targets, increasing total test coverage by 10%
- Maximized server-side quality assurance by writing and debugging unit tests using Pytest and JetBrains IDEs
- Automated periodic server health and data availability checks via Jenkins, employing CI/CD best practices
- Drove system improvement and application/consumer compatibility by cleansing data, directly interfacing with customer
- Created presentation and delivered team-wide overview of a proprietary application for visualizing interconnect telemetry

Software Engineering Intern | *Full Stack Development* May 2021 – Aug 2021
Peckham Industries, Brewster, NY

- Leveraged .NET infrastructure with SQL, Dapper, and Javascript to facilitate database integration for an equipment tracker
- Improved private API by implementing asynchronous programming techniques, streamlining data management processes
- Built front end using Javascript, CSS, and HTML using a variety of HTTP Request methods to display dynamic content

LEADERSHIP & ACTIVITIES

President | *CougarCS – UH Student Chapter of ACM* May 2022 – Dec 2022

- Define vision and key objectives for the largest student-led computer science organization at the University of Houston
- Promote professional and technical skills development to 200+ students by hosting several club workshops and activities
- Lead 10+ officers, oversee all semester event logistics, and drive new member recruitment

Secretary | *CougarCS – UH Student Chapter of ACM* May 2021 – Dec 2021

- Increased new member recruitment by 30% through structured advertisement of club activities and events
- Designed and executed Build-Your-Own-Keyboard workshop, which exceeded peak member enrollment for 2 semesters
- Streamlined team process documentation by creating thorough agendas and taking concise and organized meeting notes

INDEPENDENT PROJECTS

Bunny-Ear Retro Mac 2022 - Present
Parallel Programming · Linux · Chapel · File I/O · Raspberry Pi · Fusion360 · PrusaSlicer

- Slated to employ parallel programming techniques to load and play files from disk drive to "Bunny Ear" speakers
- Redesigned project to accommodate Raspberry Pi cluster, custom 3D-printed "Bunny Ear" attachments, and CD drive

Mechanical Keyboard | Ergonomic, Split 2021
Quantum Mechanical Keyboard (open-source keyboard firmware suite) · Soldering · FreeCAD · PCB-less design

- Wrote custom firmware using QMK to override pre-existing primary-standby system and allow use of individual halves
- Mapped individual pins of Arduino microcontroller to key subsets via hand-wiring/soldering and firmware specification
- Spearheaded entire project, sourced materials, constructed outer shell with FreeCAD and formatted print file with Cura

Pokémon Battle Simulator 2021
ARMv8 Assembly · VisUAL2

- Independently developed a text-based "Pokémon battle" simulation using only ARMv8
- Employed efficient memory and register management techniques, arithmetic commands, and console outputs

TECHNOLOGIES & SKILLS

Programming Languages/Platforms: C++, Python, Javascript, SQL, C#, .NET, ARMv8 Assembly, HTML & CSS
Tools: REST APIs, Parallel Programming, Git, Jenkins, Linux, Raspberry Pi, JetBrains IDEs, Object-Oriented Programming (OOP), Data Structures & Algorithms, Swagger UI, VISUAL2, FreeCAD, Fusion360, Cura, PrusaSlicer, Soldering
Frameworks and Libraries: React, Pytest, Jest, Dapper