Isaac Vance

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Work Experience and School Projects

Sporian Microsystems
June - October 2020
Software Development Intern
· Used **Flask** web development framework to implement webUI for displaying data from mobile microcontrollers.
· Implemented improved company VCS strategies for using **Git** and GitBlit to track many large projects of different natures.
· Gained familiarity with Jinja templates in order to efficiently populate **HTML** files using python.
· Pair programmed with senior developers to refactor implementation of device access programs in **Python**.
· Experimented with **Django** framework to assess cost/benefit of functionality in relation to implementation weight.
· Participated in daily standup meetings as well as bi-monthly planning meetings with firmware team and company CEO.

OS Thread Safety Project
Spring Semester 2021
Systems Admin Developer *CU Boulder*
· Designed and implemented a **Shared Buffer Array** to synchronize access to data files for requester and resolver **thread pools**.
· Accessed **<pthread.h>** and **<semaphore.h>** **C** libraries to use **Mutexes** and **Semaphores** for **thread synchronization**.
· Implemented a **Stack** data structure with **Synchronized Push** and **Pop** to manage thread access to the Shared Buffer Array.
· Maintained good coding standard practices to prevent **Deadlock, Starvation,** and **Race Conditions.**
· Ran completed program over University **VPN** and cloud **VM** to process filename requests and assign appropriate **IP addresses**.

RISC-V ISA CPU Implementation
Spring Semester 2021
Embedded Developer *CU Boulder*
· Independently designed and built a fully functional RISC-V processor.
· Designed and built **RISC-V Assembly** programs to test hardware functionality of ISA design and code.
· Iteratively designed block diagrams and schematics outlining processor control logic for hardware implementation.
· Implemented multiple C-like languages such as **CodAl** to write embedded programs for hardware instructions.

Object Oriented Analysis and Design Project
Spring Semester 2021
Application Programmer *CU Boulder*
· Collaborated in Xtreme Programming environment to implement a functional video game MVP in first iteration.
· Created an application using test driven development (**TDD**) by designing **JUnit** tests with IntelliJ IDE.
· Refactored design iteratively in order to adapt to changing curriculum/client requests and needs.
· Customized **git** VCS repo to integrate smoothly across team CLI and GUI preferences.
· Used Slack and **GitHub KanBan** for continuous team project tracking and communication.

Education

- <u>University of Colorado at Boulder</u>:   **-** <u>Udemy/Mosh</u>:

Bachelor's Degree in Computer Science:	Dec 2021	**Advanced C Programming:**	Dec 2020
Bachelor's Degree in Mathematics:	Dec 2016	**Web Developer Bootcamp:**	Aug 2021
Bachelor's Degree in Economics:	Dec 2016	**Object Oriented Java:**	Jun 2021

Technical Skills

Programming: Java, C/C++, Python, Javascript, Kotlin, Scala, Bash/zsh, JUnit, Maven, Gradle
VCS nad Workspace: Git, IntelliJ, Android Studio, Visual Studio, Slack, Microsoft Office Suite, Google Suite
Web Development: Node.JS, JQuery, HTML, CSS, Flask, Django
Databases: SQL, MongoDB, Cassandra
Operating Systems: Linux/Unix, Ubuntu, Windows, OSX
Cloud and Other: AWS, Digital Ocean, Heroku, Docker, VirtualBox, VMWare,

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Personal Interests: Music Production and Performance, Sailing, Rock Climbing, Hiking, Camping, Basketball