Avnoor Singh Sidhu

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EDUCATION

Bachelor of Science, Computer Science Sep 2020 – Jun 2024
University of California, Davis | Minor in Economics | GPA: 3.96 | 5x Dean's Honor List

SKILLS

Software: C/C++, Python, Java, Swift/SwiftUI, Git, Bash, React.js, CMake, MongoDB, Linux/Unix, Terminal, GDB

Relevant Coursework: Data Structures, Algorithm Design and Analysis, Software Development & Object-Oriented Programming, Computer Architecture, Operating Systems, Computer Networks, Artificial Intelligence, Computer Vision

WORK EXPERIENCE

Software Engineer Intern | Forest Change Analysis Lab Jan 2024 – Current
- Accelerated runtime by 20% by caching expensive data structures on disk using ubelt cacher to avoid recomputation
- Leveraged PyTorch3D to maximize GPU usage by batching mesh rendering operations, optimizing runtime by 40%
- Exploited NumPy to intelligently set frustum size in mesh visual to the maximum pairwise distance between cameras
- Developed GitHub workflow automating Black and isort for code formatting validation

Software Engineer Intern | Lawrence Livermore National Laboratory Jun 2023 – Sep 2023
- Performed experiments to determine optimal coalescing heuristic for Umpire, an HPC memory management abstraction
- Designed and implemented a plugin feature using virtual inheritance allowing users to customize Umpire functionality
- Developed Bash scripts to automate testing processes, resulting in a significant reduction in manual testing time
- Debugged software bugs with unit testing using GoogleTest and documented detailed bug reports for code validity

SSD Technical Intern | Solidigm Jan 2023 – Jun 2023
- Resolved 50+ JIRA tickets by updating and debugging SSDs using Python scripts on Windows, Linux, and Centos OS
- Conducted database analysis to identify incorrect relations and created documentation for data retrieval efficiency
- Utilized PowerBI to develop 10+ interactive KPI dashboards using measures to drive data-driven decision making

Project Coordinator and Mentor | CodeLab at Davis Jun 2023 – Current
- Spearheaded client outreach with concise presentations and organized industry-level projects for upcoming cohort
- Mentoring developers, designers, and project manager in MERN stack mobile app development, providing technical guidance and fostering interpersonal skill development
- Developing a dining commons app with daily macro tracking, filtering food options, and notifications for favorite foods
- Implemented Google Authentication and notifications using Firebase and web scraped food items using Python

PROJECT EXPERIENCE

iOS Property Management Application | Grata Feb 2023 – Jun 2023
- Developed Grata's app that allows managers to pair/unpair locks to tenant units, change lock PINS, and search for units
- Implemented Bluetooth lock pairing/unpairing and control using Alfred SDK and CocoaPods
- Integrated login/logout feature with FaceID using Local Authentication framework and invalid credentials handling
- Accessed Grata's API through HTTP requests to accomplish tasks such as setting user locks PINs

Server Dashboard Project | Solidigm Jan 2023 – Jun 2023
- Built software displaying live server data and availability status using host/client scripts implemented with TCP sockets
- Utilized OpenPyXL to store updated information in a Google Sheet to allow easy accessibility for Wiki page parsing
- Automated Python virtual environment with a CronJob and a bash script for seamless client/server code deployment
- Resulted in streamlined server resource allocation and product is implemented company-wide

User Thread Library | Class Project May 2023
- Developed a Linux-based user-level thread library, offering an interface for simulating multi-threading and concurrency
- Implemented user-thread, semaphore, and preemption API's for thread management and proper thread synchronization