Wilson Xu

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Education

University of California, Berkeley **May 2024**
***Major*: Computer Science** **GPA: 3.6**

- *Courses*: Operating Systems | Computer Security | Machine Learning | Algorithms and Problems | Database Systems | Data Structures | Artificial Intelligence | Computer Architecture | Discrete Math and Probability | Linear Algebra and Differential Equations

Technical Skills

- Python, Java, SQL, C, Golang, HTML/CSS, Javascript, Rust, RISC-V
- Git, Linux, Perforce, Jupyter, Makefile, MongoDB, Postman

Work Experience

Five9 **May 2023 - August 2023**
Software Engineer Intern

- Led initiative to standardize 20+ error exception classes of voice stream product into a single, unified class in Java, enabling a seamless development platform for global teams and facilitating quicker updates to our API for enhanced customer experiences

Intel **June 2022 - September 2022**
Software Engineer Intern

- Optimized device database management in FPGA design software platform with Python program, retrieved and processed millions of customer design properties from internal databases to improve data storage efficiency
- Wrote Python program to generate large-scale, multi-layer FPGA designs, supporting user-specified parameters in JSON, for performance testing of internal device databases

Projects

End-to-End Encrypted File Sharing System **2023**

- Built file system in Go with data sharing across concurrent users with multiple devices
- Utilized RSA, symmetric-key cryptography, HMACs to uphold IND-CPA confidentiality and EU-CPA integrity for file invitations and select file storage features within a Datastore

Pintos Operating System **2023**

- Designed and implemented an operating system in C with a team
- Supported fundamental operations such as process executions, forking, system calls, variable data sizes, priority scheduling, and memory management

Handwritten Digit Classification w/ Machine Learning **2022**

- Produced a handwritten digit classification neural network that classifies whether numbers from the MNIST dataset are “3” or “9” with 98% accuracy
- Developed back-propagation/gradient descent formula for model from scratch, performed matrix computations with Numpy and visualized train/test progress with Matplotlib

Caltask: Web Development Productivity Tool **2022**

- Created a workload and assignment manager with HTML/CSS and JS w/ team of three
- Added the ability to add, edit, and remove assignments from a weekly to-do list

Numc: Numpy Optimization **2021**

- Programmed a matrix calculator in C, supported features such as adding, multiplying, and exponentiation functions, achieving speedups of up to 700x compared to naive solutions

Gitlet: Version Control **2021**

- Designed and produced a version control system emulating Git, with Java
- Supported commands such as add, commit, merge, checkout with custom data storage classes and utilized data structures for efficient file tracking