

## Wilson Xu

<https://wilson-xu-8.github.io>

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### Education

**University of California, Berkeley**

**December 2023**

**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, React
- Git, Linux, Perforce, Jupyter, Makefile, MongoDB, Postman

### Work Experience

**Five9**

**May 2023 - August 2023**

*Software Engineer Intern*

- Developed new full stack feature to display media types of streams for customers by expanding backend API and leveraging React; incorporated feature flag to personalize experiences of different customers
- Led initiative to standardize 10+ error exception classes of VoiceStream 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

**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