# Aaron Zheng

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## Education

**Boston University** — Boston, MA
*Bachelor of Arts in Computer Science* — *Aug. 2021 – May 2024*
- GPA: 3.7/4.0, Cum Laude, Dean's List for 5 Semesters

**University of California, Berkeley** — Berkeley, CA
*Non-Degree Computer Science* — *June 2019 – August 2022*

## Experience

**Software Engineer Intern** — May 2023 – August 2023
*Cepton* — *San Jose, CA*
- Created and integrated a Lidar and live video feed processing chip simulation into QEMU using C and Assembly
- Assisted in migrating a Point Cloud visualization application code base from Electron to Chromium, resulting in compatibility improvements
- Conducted regression testing with Jenkins and Github, identifying and resolving build issues

## Projects

**Whole Slide Image Kidney Disease Classifier** | *Python, OpenCV, PyTorch, CUDA* — April 2024
- Collaborated with a team of 3 to develop a machine learning classifier for kidney disease diagnosis
- Trained a ResNet-152 model using the PyTorch CUDA API with Apple MPS compatibility, achieving an 82% accuracy rate
- Recognized Acute Kidney Injury (AKI), Chronic Kidney Disease (CKD), and healthy kidneys through SVS format medical images, optimizing training for fast performance and low resource utilization

**Police Pay Data Analysis** | *Python, NumPy, Pandas, matplotlib* — September 2023 – December 2023
- Led team of 5 on data analysis project commissioned the City of Boston
- Collected and aggregated data on police overtime pay in Boston
- Performed data analysis and found trends that influence policymaking and save taxpayer dollars
- Findings presented to the Boston City Council with actionable feedback

**AI Chess bot** | *Java* — October 2023
- Won 1st place in tournament out of 50 competing bots, with 84% win rate and fastest runtime
- Built using the SEPIA framework for visualization
- Utilizes piece square tables, custom heuristics and Alpha-Beta search

**E2EE File Sharing System in Go** | *Go, SSH, Linux, Bash Script, Ginkgo* — June 2022 – August 2022
- Dropbox-like features, efficient file appends and updates that do not scale with file size
- Secure against the IND-CPA test for ciphertext indistinguishability
- CRUD + access revocation functionality with integrated tamper detection system

## Technical Skills

**Languages**: Python, Java, C/C++, Go, SQL, JavaScript/TypeScript, HTML/CSS, x86 Assembly
**Frameworks**: React, Node.js, Flask, JUnit, Ginkgo, Electron, Chromium
**Tools**: Git, Docker, Jenkins, VS Code, Visual Studio, IntelliJ, Eclipse
**Libraries**: pandas, NumPy, Matplotlib, OpenCV, PyTorch, TensorFlow