# Bassem Halim

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## Education

**University of California, Berkeley**                                                 **Dec. 2022**
*Bachelor of Science in Electrical Engineering and Computer Science*          Cumulative GPA: 3.54/4.00

- **Relevant Coursework:**
  Operating Systems (C, x86), Data Structures and Algorithms (Java), Machine Structures (C, RISC-V), Efficient Algorithms, Embedded Systems (C), AI, Cyber Security, Databases, Computer Vision, Machine Learning

## Work Experience

**Software Developer - AI Trainer**                      **ScaleAI**                      **Dec 2023 - Present**
- Writing performant code, and rating AI responses to generate high-quality training data for large language models.

**Software Developer**                            **link.xceedcore.com**                  **Jan 2024 - Present**
- Created a Google reviews growth platform that helped business owners get more than 7 reviews per day and improved their online reputation.
- Developed and deployed the full-stack platform using Next.js, Firebase, TailwindCSS, Chakra UI, and Docker.

**Software Engineer Intern**                            **pi-lit**                        **May 2022 - Aug 2022**
- Wrote a custom driver in both C and Python for a GPS module that uses UART for communication.
- Enhanced an internal logging tool's efficiency by 30%, as measured by CPU utilization, by using interrupts for data retrieval instead of polling.

## Software Projects

**[Real-Time Chatroom](#) | Go, Gin, PostgreSQL, React, TS, TailwindCSS, Docker**        **July 2023 - July 2023**
- Created a full-stack chat room app with new message broadcasting using WebSockets.
- Implemented a scalable backend system with secure user authentication (JWT tokens) and efficient message storage and retrieval through a REST API.
- Developed a scalable message upvote and downvote feature by using record locks.

**[Video Streaming Server](#) | Python, OpenCV,  NumPy**                                  **June 2023 - June 2023**
- Developed a web server to generate a video stream showcasing a bouncing ball animation.
- Established a secure WebRTC video stream to clients utilizing TCP socket signaling.
- Used openCV to estimate the ball's position and transmit the estimates back to the server through a data channel.

**Cyclopath | Java, Spring Boot, TS, React Native, Playwright, DynamoDB, S3**            **Mar. 2023 -Dec. 2023**
- Developed a full-stack cycling fitness app providing users with detailed workout information, including route, weather, distance, and speed.
- Utilized AWS DynamoDB to store workout details and S3 to store the generated workout static maps.
- Integrated Mapbox Maps API and a weather API for route visualization and workout insights.

**End-to-End Encrypted File Sharing system | Go, Cryptography**                          **Mar. 2022 - May 2022**
- Built an End-to-End encrypted file-sharing system with a file share and revoke functionality
- Designed an algorithm to securely and efficiently store, load, and append to files.
- Used asymmetric encryption to share files securely using public key encryption and digital signatures.

**PintOS | C**                                                                          **Feb. 2022- May 2022**
- Worked in a team of 4 to implement various functionalities in an educational OS for the x86 architecture.
- Implemented the functionalities to create threads, fork processes, and pass arguments to user programs.
- Improved the file system speed by an average of 40% by adding a buffer cache.

## Skills

- **Languages**:  Java｜Python｜C｜SQL｜HTML｜CSS｜ JavaScript｜Go｜C++｜x86｜RISC-V
- **Frameworks/ libraries**: Spring Boot｜Django｜React.js｜NumPy｜OpenCV｜Gin｜Pandas｜Playwright｜Next.js｜ChakraUI
- **Database**: Amazon Web Services(DynamoDB, S3)｜PostgreSQL｜MongoDB｜Firestore
- **Tools:** Git｜Linux｜software development｜OOP｜JWT｜ Postman｜OpenMP｜SIMD｜WebRTC｜ Websockets｜Docker