Ziyi Lu ←

Seeking **Software** position

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Education

University of California, Berkeley, Graduating **Dec 2021**
Computer Science BA & Astrophysics BA, **GPA:** 3.768 / 4.0

Coursework: Software Engineering, Computer Architecture, AI, Algorithms, Circuits, Computer Security, Machine Structures, Data Structures, Informational Systems, …

Skills

1. **Languages**: Python, Ruby, Go, C, Java, RISC-V assembly
2. **Technologies:** Ruby on Rails framework, git, Flask, Heroku, NumPy, MatPlotLib
3. **Methodologies:** Agile team development, Object-Oriented Programming (OOP), REST, Test-Driven Development (RSpec & Cucumber), Test automation, SaaS

Work

Amazon, Software Development Engineer Intern (Incoming), *2021-6 – 2021-9*

Undergrad Student Instructor, UC Berkeley *2020-8 – 2020-12*
1. Taught Optical & Infrared Astronomy Lab to 20 junior & senior students for 8h / wk.
2. Gave tutorials on scientific computing tools & how to write clear, optimised code.
3. Held office hours, often answering questions about programming in Python.

Open-source Contributions & Projects

Reci.tech, Python / Flask Web app for the HackPSU Hackathon, *2021-3*
1. Conceived & built a web app to compare spoken and written sentiments in a line.
2. Curated and led a team of 5 across 4 time-zones over 2 days to build the product.
3. Worked on the Python / Flask back-end, Bootstrap front-end, and deployed to Heroku.

Snap!Con, Ruby on Rails web app in an Agile team of 5, *2021-1 – 2021-5*
1. Open-source framework for programming education conferences. 600 attendees yearly.
2. Worked in an Agile team as a web developer, under the Ruby on Rails framework.
3. Won Best Project of the Semester, as selected by a panel of Y-Combinator alumni.

Secure File-sharing System on a Hostile Storage in Golang, *2020-11 – 2020-12*
1. Designed & implemented an encrypted file sharing system in a team of 2.
2. Designed multi-user file-sharing & selective revocation into the service.
3. Used Golang & interfaced with cryptography & storage APIs.

Optimised Linear Algebra Module in C, *2020-4 – 2020-5*
1. Implemented a C maths module for linear algebra.
2. Optimised it with various techniques like cache-blocking & loop-unrolling.
3. Achieved ~7x performance for the matrix power operation.

Git-like Version Control System in Java, *2019-11 – 2019-12*
1. Designed and implemented an Objected-Oriented architecture in Java.
2. Utilised Java built-in serialisation and I/O for git-like data persistence.
3. Implemented complex tree operations including *branch* and *merge*.

Research

Cell-based Galactic H-alpha/beta Line Radiative Transfer Simulation, *2019-5 – 2019-8*
1. Cell-based Monte-Carlo numerical simulator of photon random walks in a galaxy.
2. Expanded legacy simulator in C, data processing & visualisation in Python.
3. Generated & processed ~15GB of photon data.

Extracurriculars

Webmaster & Associate Editor for Berkeley Poetry Review, *2018-8 – 2020-8*
1. A 50-year-old magazine that publishes poetry from all over the world.
2. As a webmaster, updated the Wordpress website & participated in a visual overhaul.
3. As an associate editor, meets with the team weekly to review & select poems.