PAUL LUCERO

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EDUCATION

UNIVERSITY OF COLORADO AT BOULDER, College of Engineering **Boulder, CO**
Bachelor of Science in Computer Science *May 2020*

- Minor in Applied Mathematics GPA: 3.98 cumulative, 4.00 department
- Notable coursework: Data Structures, Algorithms, Data Science, Theory of Computation, Introduction to Artificial Intelligence, Network Systems
- Recipient of a corporate-sponsored National Merit Scholarship (roughly 7,000 recipients nationwide/year) and a CU Boulder Esteemed Scholars - Sewall scholarship (requires 4.0+ high school GPA and 33+ ACT score)

SKILLS/PROJECTS

- Designed and created **Kotlin**-based **Android** app as side project, following TDD best practices
- Led development of CU Boulder project for industry sponsor Festo to create blockchain-enabled REST Web API for client-specific task, using **Python** with **Flask** as major framework, plus **Solidity** and **web3py** to integrate blockchain functionality
- Designed, created, and demonstrated working prototypes of useful tools and fun apps using **JavaScript**, **HTML/CSS** as a regular participant in CU Boulder's HackCU hackathon series
- Implemented and validated a simple scripting language interpreter written in **Scala** during Principles of Programming Languages course
- Strong experience with **Python** as a daily-driver automation and scripting tool for personal usage, including libraries **boto, connexion, matplotlib, numpy, pandas, pillow, pyPDF, scipy, seqlearn, tkinter**
- Regular experience with **Git**, **LaTeX** for personal source code management, assignment write-ups, documentation
- Prototyped scripts and data analysis tools using **Jupyter Notebook** during Artificial Intelligence, Data Science courses
- Adapted domain-specific file format editor written in **Java** to one-off alternate task

EXPERIENCE

GOOGLE **Seattle, WA (remote)**
Software Engineer II *July 2021 -*

- Maintained **Java** backend system serving O(100k) QPS for critical business use case - experience with debugging/triage
- Collaborated on complex data migration project to reduce toil and save O(100T) disk space

Resident Engineer II *July 2020 - July 2021*

- Designed and implemented **C++**-based pipeline for parsing third-party disk image format in order to supplant inefficient virtualized third-party approach. This pipeline reduced disk image import latencies from O(days) to O(30 minutes), improving efficiency by 20-200x and parallelizing effectively
- Designed and implemented internal **C++/Bazel/Starlark** testing framework which allows developers to re-use a single test case in multiple environments which trade between speed & fidelity. This approach shifts development left to catch more bugs while providing better test coverage more efficiently, projected to have saved O(weeks) of SWE time
- Gained deep understanding of **Google Cloud Platform** systems/usage patterns, familiarity with **Kubernetes/Borg**

TRAVELPORT **Englewood, CO**
Software Development Engineering Intern / Systems Team *May 2019 - August 2019*
Travelport develops back-end software (airline/car reservation systems, ticket search & pricing, etc.) for travel resellers such as Expedia, Booking.com, as well as non-resellers such as United, easyJet.

- Created and validated **Jenkins** CI/CD pipeline using **Groovy** scripting language for Travelport's largest & most systems-critical Linux application. Provided immediate build & visible feedback compared to existing opaque daily build system
- Implemented and enhanced automated tests using **Python** for test harness creation. Removed need for manual testing on part of developers and provided immediate 50% increase in code quality report speed. Provided framework for future scalable speedup by a factor of at least 4, dependent only on hardware availability
- Assisted Agile software development team with planning and execution of tasks. **Certified Scaled Agile Framework (SAFe) practitioner**

PENJI, INC **Boulder, CO**
Independent Tutor / Computer Science *November 2018 - May 2020*
Penji provides flexible, self-schedule tutoring to undergraduate university students at CU Boulder & several other universities.

- Tutored ~24 unique students for classroom assignments in **Python, C/C++, x86-64 Assembly** across all core Computer Science courses at CU Boulder
- Self-managed schedule and incoming tutoring requests to maximize value delivered to a wide population of students. Received positive feedback from clients (consistent 4- and 5-star reviews mentioning quality of service provided)

UNIVERSITY OF COLORADO AT BOULDER **Boulder, CO**
Course Assistant / Computer Science Department *January 2017 - May 2018*

- Tutored ~15 students/week, providing homework help, test preparation, and formation of critical thinking/logical reasoning in **Introduction to Computing** and **Discrete Mathematics**. Assisted with assignments in **Python, C++**
- Responded to needs of professor & department, such as proctoring exams of 100+ students and proofreading 10-15 weekly homework questions to increase efficiency of course

MISCELLANEOUS

Certifications: Scaled Agile Framework (SAFe) versions 4.6, 5.0 practitioner
Interests: Digital signal processing and digital media, backend system design, network systems, gaming (tabletop/digital)