

# GLENN LEBLANC

530-400-4959 | [gleblanc@berkeley.edu](mailto:gleblanc@berkeley.edu) | [linkedin.com/in/glenn-leblanc](https://www.linkedin.com/in/glenn-leblanc) | [github.com/gl3nnleblanc](https://github.com/gl3nnleblanc)

## EXPERIENCE

### Amazon Web Services - Software Development Engineer

Sep. 2022 - Present

Technologies: C, Java, Postgres

Palo Alto, CA

- Contribute to AWS Aurora development

### Nauto - Data Science Intern

Feb. 2022 - Jun. 2022

Technologies: Python, C++, TensorFlow, SQL, AWS, PySpark, Databricks, Kalman Filtering

Palo Alto, CA

- Tuned on-device anomaly detector algorithms to increase test F1 scores by 30%
- Implemented and validated TensorFlow vehicle dynamics model as part of effort to port C++ GPS & IMU sensor fusion algorithm into cloud model
- Developed logging and data analysis software to interface with commercial and in-house GPS and IMUs

### UC Berkeley, Bay Area Neutron Group - Research Intern

Nov. 2020 - Aug. 2021

Technologies: C++, ROOT,  $\text{\LaTeX}$ , Nuclear Physics

Berkeley, CA

- Coauthor for paper *Modeling ionization quenching in organic scintillators* (Materials Advances June 2022)
- Contributed to large-scale C++ data analysis framework to develop Monte-Carlo fitting routine solving longstanding (3+ years) problem group had faced concerning biased model fitting using least squares
- Presented work at 2021 IEEE Nuclear Science Symposium

### SGT/KBR, NASA Quantum AI Laboratory - Research Intern

Jun. 2019 - Aug. 2019

Technologies: Python, NumPy, SciPy, TensorNetwork, Pytest, TravisCI, Quantum Algorithms

Moffett Field, CA

- Developed package for parameterized tensor network contraction to classically simulate quantum algorithms
- Participated in weekly journal club discussing recent developments in quantum computing and technology

## EDUCATION

### UC Berkeley

Dec. 2021

BA in Physics and Data Science

GPA: 3.8

- Relevant coursework: Software Engineering; Algorithms; Data Structures; Data Science; Decision Theory; Machine Learning; Engineering Optimization; Probability Theory; Semiconductor Circuits; Advanced Physics Experimentation Laboratory; Quantum Computing

## TEACHING

### Teaching Assistant

Jun. 2020 - Aug. 2020

Berkeley edX

Berkeley, CA

- Spearheaded reopening of massive open online course in quantum computing with over 40,000 enrolled students
- Assisted students in interactive forum and hosted office hours

### Computer Science Mentor

Jan. 2020 - May 2020

UC Berkeley

Berkeley, CA

- Taught weekly group section for data structures course
- Worked with students to identify key areas of weakness and direct review focus accordingly

### Student Instructor

Aug. 2019 - Dec. 2019

UC Berkeley

Berkeley, CA

- Developed and managed an introductory course in quantum computing with 17 enrolled undergraduates
- Presented weekly lectures and prepared and graded assessments

## PROJECTS

### Quantum Simulation Playground | Julia, TravisCI, Git

Apr. 2021

- Implemented tensor train decomposition for efficient compression of high-rank tensors with limited entanglement entropy; applications in condensed matter physics and machine learning
- Implemented time-evolving block decimation for exponentially faster simulation of 1D quantum systems

### Quantum Partial Search | Python, Pyquil, Forest API, Git

Apr. 2019

- Implemented a variation of Grover's algorithm for unstructured search in sublinear time using a quantum processor

### Gitlet | Java, Git

Dec. 2018

- Architected and implemented a mini version-control system inspired by Git
- Implemented branching, merging, staging, and committing features

## TECHNICAL SKILLS

**Languages:** Java, Python, Julia, C/C++, SQL, JavaScript, Ruby

**Libraries:** NumPy, SciPy, Pandas, Matplotlib, TensorFlow, PySpark

**Developer Tools:** Git, GDB, AWS, Databricks, TravisCI, Vim, Visual Studio, Jupyter

**Other:** Excel, Kalman Filters, Design Patterns