

GLENN LEBLANC

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EXPERIENCE

Amazon Web Services - Software Development Engineer

Sep. 2022 - Present

Technologies: C, C++, PostgreSQL, Protobuf, Distributed Transactions

Palo Alto, CA

- Designed and implemented APIs across various microservices supporting upcoming AWS Aurora feature

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, \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

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

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

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

Other: Excel, Kalman Filters, Distributed Systems, Design Patterns