Glenn LeBlanc

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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; Advanced Physics Experimentation Laboratory

Experience

Nauto - Engineering Internship Feb. 2022 – May. 2022
Data Science Division *Palo Alto, CA*

- Fuse data from GNSS and IMU systems via Kalman filter framework to provide accurate online location tracking
- Setup and test a previously acquired navigation system based on Novatel SPAN technology
- Analyze data collected with the system to benchmark in-house navigation technologies against the SPAN baseline

UC Berkeley - Research Internship Nov. 2020 – Aug. 2021
Bay Area Neutron Group *Berkeley, CA*

- Collaborated with team on large-scale C++ data analysis framework to leverage massive datasets for modeling ionization quenching in organic scintillators with full uncertainty quantification
- Developed Monte-Carlo fitting routine to solve longstanding (3+ years) problem group had faced concerning biased model fitting using least squares

KBR - Research Internship Jun. 2019 – Aug. 2019
NASA Ames Quantum Artificial Intelligence Laboratory *Moffett Field, CA*

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

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 to 17 undergraduates
- Presented weekly lectures and prepared and graded assessments

Projects

Quantum Simulation Playground | *Julia, TravisCI, Git* Apr. 2021

- Tensor train decomposition for efficient compression of high-rank tensors with 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 quadratic 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, HTML/CSS, Ruby
Libraries: pandas, NumPy, SciPy, Matplotlib, TensorFlow, Ruby on Rails
Developer Tools: Git, AWS, Databricks, TravisCI, Vim, IntelliJ, Jupyter
Other: Excel, Kalman Filters, Design Patterns