

# ZACHARY BERGER

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Graduating CS major with varied industry experience looking for role as applied scientist, data scientist, or ML engineer. I have diverse interests including computer vision, quantum computing, bioinformatics, and autonomous music creation.

## EDUCATION

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2018 – 2022 **University of California, Los Angeles (UCLA)**

4.00 GPA | B.S. candidate in Computer Science, Mathematics concentration.

*Courses* – Operating Systems, Data Structures & Algorithms, Intro to ML, ML in Bioinformatics, Quantum Computing, Deep Learning & Neural Networks, Network Fundamentals, Real Analysis, Linear Algebra, Probability, Multivariable Calculus, Discrete Math.

## WORK EXPERIENCE

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2021 **Amazon**, Seattle – *Software Engineering Intern*

- Designed and built a native AWS application to supply up-to-date login information for multi-factor authentication challenges.
  - Obtained a detailed understanding of AWS services (i.e., compute & storage) to make intelligent design decisions in a cloud computing environment.

2021 **Tesla**, San Francisco – *Data Science Intern*

- Wrote and scaled a data quality detection algorithm using Scala to operate on Tesla's multi-petabyte vehicle dataset.
  - Program ensures data robustness in Tesla's Insurance & Prognostics services.
  - Built data pipeline using Airflow to periodically deploy algorithm on a distributed Spark cluster, then update results/visualizations in Superset.

2020- **UCLA Vision Lab**, Los Angeles – *Research Intern*

- Developed novel algorithm to optimize adversarial attacks against stereo matching networks. Showed robust neural network architectures for depth prediction.
- Aided with experimental design and led project implementation.

2019 **MobiTV**, San Francisco – *Software Engineering Intern*

- Built a multithreaded developer app for scalable management of many Git repos.
- Automated configuration of Varnish caching software.
  - Set up CI/CD workflow using GoCD. Added fully automated testing and developed a separate program for rapid generation of new tests.

2015 **INTL FCStone**, New York City – *Research Intern*

- Researched and reported on the implications of Green Bonds for a Fortune 500 financial services company. Shadowed operations of each department.

## PROJECTS

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2020 **Quantum Computing**

- Implemented 6 quantum algorithms in Cirq and Qiskit. Deployed and ran code on several IBM QCs and Google Sycamore, with extensive experimental analysis.

2020 **Predicting Synapse Connections**

- Applied classical ML methods to predict synapse connections in fly brain structure.

## TECHNICAL SKILLS

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Python (NumPy, PyTorch, Pandas, PySpark, Scikit-learn) | C/C++ | Java | Golang | SQL | Latex | Git  
Unix/Linux | AWS | Spark | Airflow | Superset | GoCD | CI/CD | Data Visualization | Experimental Design