

# ZACHARY BERGER

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CS/Math student and jazz pianist with diverse interests in tech such as machine learning, autonomous music creation and bioinformatics. Seeking software engineering or data science internship to further broaden skills and exposure.

## EDUCATION

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- 2018 – 2022    **University of California, Los Angeles (UCLA)**  
4.00 GPA | B.S. candidate in Computer Science and Applied Math, ML concentration.  
*Courses* – Operating Systems, Data Structures & Algorithms, Software Construction, ML, Real Analysis, Linear Algebra, Probability, Multivariable Calculus, Discrete Math.  
*Ongoing* – Algorithms & Complexity, ML in Bioinformatics, Real Analysis – Part II.  
*Awards* – TBP (Engineering Honors Society), UPE (CS Honors Society), Dean's List (2020).

## WORK EXPERIENCE

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- 2020    **ASK Music Label**, Los Angeles – *Director*
- Started record label with music distribution pipeline to all major streaming services.
  - Led team of 7 artists in producing/publishing two songs, “Brazil” and “Jitterbug”.
  - COVID-19 pandemic led to cancellation of my summer tech internship; I took this time to achieve a longtime goal of producing music while taking additional CS classes.
- 2019    **MobiTV**, San Francisco – *Software Engineering Intern*
- Designed and built a multithreaded developer app to permit scalable management of Git repositories.
    - Tailored the program specifically to MobiTV's backend and DevOps processes.
  - Increased efficiency for SRE by automating configuration of Varnish Caching software, turning a frequent 5 hour manual task into a near instantaneous process.
    - Set up CI/CD workflow using GoCD. Fully automated testing and developed a separate program for rapid generation of new tests.
    - Contributed to deployment of the software into MobiTV's backend.
- 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    **Jazz Impro-Visor (with Harvey Mudd College)**
- Developed novel algorithm to shape structure of computer improvised jazz solos.
  - Explored foundational mathematical models, formal grammars, automata theory and ML techniques as applied to spontaneous computerized jazz music creation.
- 2020    **IoT Weather Reporter**
- Programmed embedded system to take temperature readings. Used network programming to communicate TLS encrypted messages to server node.
- 2019    **Genomic Search Engine**
- Genome comparison with user determined error tolerance. Processing of FASTA files to find SNPs. Used custom Trie ADT implementation, full time complexity analysis.

## TECHNICAL SKILLS

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C/C++ | Java | Python3 | Golang | MATLAB | Unix/Linux | Git | GoCD | Varnish | Familiarity with Docker  
Multithreading | Continuous Integration & Deployment | Data Visualization | ML for Music Creation