Brandon Lee

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Education

University of California, Berkeley (Spring Class of 2021)

- **Data Science Major, Computer Science Minor -** GPA: 3.59
- **Competitions**: Microsoft X PiE Datathon - Top 1 best model
- **Coursework**: Linear Algebra, Multivariable Calculus, Discrete Math, Probability Theory, Data Structures, Low-Level Programming, Database Systems, Algorithms, Cybersecurity, Machine Learning, Natural Language Processing, Data Science Techniques

Skills

- **Knowledge:** Data Structures, Algorithm Theory, RISC-V, Runtime Complexity, Databases, Unit Testing, Modeling, Matplotlib, Pandas, Scikit-learn, Pytorch, Jupyter, Git
- **Proficient Languages**: Python, Java, C/C++, SQL, Assembly, HTML, CSS

Work Experience

- **Student Researcher - Non-Orientable Manifold Editors Lab** **Fall 2020 - Present**
  - Student researcher under professor to develop a new 3d-modeling tool, where I worked on generators (mobius strip, cartesian/parametric/implicit surfaces, etc.) and framework testing.
  - https://brandonyli.github.io/
- **Undergraduate Student Instructor - University of California, Berkeley** **Fall 2020**
  - Worked under professors to facilitate an upper-division data science course to 1100+ students. Held remote discussion sections, labs, office hours, proctored & graded exams, and helped create course material (regression and modeling).
- **Data Science Intern - FreshLime** **Summer 2020**
  - Database deduplication with Tf-idf/levenshtein distance approaches, created a cohort retention interface generator for inclusion in the main product, presented chatbot latency analysis to the development head, and built new accounting software for VP of Business Development.
- **Lead Consultant - DataStory Consulting Club** **Fall 2019 - Spring 2020**
  - Led student team at UC Berkeley on a client project working with environmental data, developed model and map-overlay visualization from raw datasets pulled from government sites.
- **IT Intern - AIDP Inc.** **Summer 2019**
  - Updated product websites and financial software, provided chemical composition data analysis.

Projects

- **Email, Digit, and Image Recognition Models - (Python)**
  - Developed separate models based on Logistic Regression, Support Vector Machines, Linear & Quadratic Discriminant Analysis, Decision Trees, and Neural Networks on popular email spam/ham, MNIST, and CIFAR10 datasets.
- **NP-Hard Cell Towers (Minimum Weighted Connected Dominating Set) - (Python)**
  - Built a generator of graph edges for local minimal weight solutions on NP-Hard problem using random generation of MSTs on random dominating sets, before pruning on minimal weight MST.
  - Other approaches included probabilistic independent sets and Steiner Tree pruning.
- **Database Design - (Java)**
  - Built B+ Tree Page Indexing, Relational Joins (Grace-Hash, Sort-Merge, etc.), Query Optimization, Concurrency Control (transaction locking), and Recovery Manager (ARIES).
- **Python Library Matrix-Operation Speedup - (C)**
  - Developed Numpy-style matrix operation library with indexing, matrix multiplication, powering, etc. using memory cache, SIMD, and OpenMP multithreading for speedups.