

EDUCATION

- **University of California, Berkeley** Berkeley, CA
Bachelor's Degree in Computer Science; GPA: 3.97/4.00 *Aug. 2018 – Present (Expected May 2022)*
 - **Computer Science Classes:** Structure and Interpretation of Computer Programs (CS 61A), Data Structures (CS 61B), Machine Structures (CS 61C), Discrete Mathematics and Probability Theory (CS 70), Computer Security (CS 161), Efficient Algorithms and Intractable Problems (CS 170), Introduction to Machine Learning (CS 189)
 - **Electrical Engineering Classes:** Designing Information Systems and Devices (EE 16A/B), Probability and Random Processes (EE 126), Convex Optimization (EE 127)
 - **Mathematics Classes:** Multivariable Calculus (Math. 53), Linear Algebra and Differential Equations (Math. 54), Functional Analysis (Math. 202B)

EXPERIENCE

- **UC Berkeley EECS Department** PI: Dr. Avishay Tal
Undergraduate Researcher, Theory Group *Feb. 2020 - Present*
 - **Research Project:** Work on algorithmic machine learning projects, most recently on the topic of learning efficient representations of boolean functions, with small research group; read at least one recently-published paper and several lecture notes a week; attend weekly group meetings to synthesize information and find relevant problems.
 - **Resource Collection:** Identify and collect relevant resources, including lecture notes, papers, and textbooks, to distribute to small group, thereby guiding group progress and providing context to research tasks.
- **Symphony AyasdiAI** Mentor: Dr. Jennifer Kloke
Machine Learning Engineer Intern *Jun. 2019 - Aug. 2019*
 - **Topological Data Analysis Client Demo:** Generated features, both manually and as the output of neural networks using state-of-the-art architectures, then fed them into a gradient boosting algorithm; resulting model matched performance of best known model on public dataset; then, added features obtained through topological data analysis to beat them all; final model used as a financial technology analysis demo (Python 3).
 - **Internal SDK Development:** Utilized and implemented popular dimensionality reduction algorithms for topological feature engineering and data visualization; catalogued performance of common machine learning algorithm packages against internal implementations, and made improvements where possible (Python 3).
- **UC Berkeley Development and Impact Lab** PI: Dr. Ashok Gadgil
Research and Development Intern, UC Berkeley Gadgil Lab for Energy and Water Research *Nov. 2018 - May 2019*
 - **Statistical Model Generation:** Created simulation of novel arsenic-removal technologies (ECAR/ACAIE) using chemical kinetics models and machine learning techniques (support vector machines and tree models) to predict technological efficacy given environmental/human-controlled parameters (Python 3).
 - **Data Engineering and Analysis:** Constructed data pipeline and visualizations to interpret model results in context of experimental observations; expedited data processing for future field experiments (AWS/Python 3).

MISCELLANEOUS ACTIVITIES

- **CS 170 Staff:** Hold weekly conceptual office hours on algorithms and data structures, teach discussion sections, assist students with problem sets at “homework parties”, create grading rubrics, and grade problem sets and exams.
- **Upsilon Pi Epsilon:** Activities include mentoring younger members, providing mock technical (algorithmic) interviews, developing a technical interview question bank, academic tutoring, and resume review, during weekly office hours.
- **Berkeley Math Tournament:** Activities include writing challenging high-school level problems, organizing a subject test, and developing new website features (i.e., tiebreaker software, in-house L^AT_EX editor, et cetera).
- **Drive the TAs Home:** CS 170 contest to find best approximation solutions to a generalization of the Traveling Salesman problem; used ensemble of heuristics and linear programming to achieve fourth place out of 370 teams.

TECHNOLOGIES

- **Languages/Frameworks:** Python, Java, C++, C, Kotlin, HTML, CSS, JavaScript, Django, MySQL
- **Machine Learning Libraries:** TensorFlow, PyTorch, Keras, SKLearn, Pandas
- **Other:** Git, Electron, L^AT_EX, MATLAB, Mathematica