Daniel Zeng

danielzeng@berkeley.edu   (408) 987-1872   github.com/daniel-zeng
linkedin.com/in/daniel-zeng   danielzeng.com

University of California, Berkeley   *May 2021 (Expected)*
Computer Science, Bachelor's Degree   GPA 3.97

Relevant Courses (*current)   **Skills**

CS189* - Machine Learning, CS170* - Algorithms,   **Languages:** Python, Java, C++, Javascript,
CS188* - Artificial Intelligence, CS61B - Data Structures, GNU Octave
CS70 - Discrete Math and Probability Theory, CS61A -   **Platforms/Tools:** TensorFlow, NumPy,
Interpretation of Computer Programs, MATH54 - Linear   PyTorch, Matplotlib, Git, Bash, Pandas,
Algebra   HTML/CSS, Requests, Sockets, JUnit

Experience

Software Engineering/Research Intern — NASA (Ames Research Center)   *June 2018 - Aug 2018*

- Developed an emulator for cyber security attacks on Air Traffic Management (ATM) system using existing ATM Testbed framework
- Built and tested functionality to generate and visualize a wide range of attack scenarios
- Implemented methods to model aircraft trajectory from specified origin to destination
- Created internal tool to configure Testbed framework components for interfacing with emulator

Project/Machine Learning Developer — Cal Launchpad, UC Berkeley   *Sept 2017 - Present*

- Project Facelift (Jan 2018 - May 2018)
  - Implemented convolutional neural networks to reconstruct 3D facial volume from 2D image
  - Used dlib to preprocess facial features and perform facial alignment
- Project DeepBeat (Sept 2017 - Dec 2017)
  - Implemented phase functioned LSTM model for music generation with Google's Magenta
  - Built methods for data processing on music MIDI files to utilize during network training

Research Assistant — Dal Bó Lab, UC Berkeley   *Sept 2017 - May 2018*

- Developed methods for natural language processing and statistical analysis to extract relevant text content from archaeological journals
- Built process for collecting archaeological journals using Crossref REST API and web scraping

Research Intern — Bhatia Lab, Boston University   *July 2016 - Aug 2016*

- Developed algorithm to model genetic circuits components (synthetic biology) from learned neural network parameters (sigmoid input weights)
- Used curve fitting (Levenberg-Marquardt) to find hill equation parameters during modeling
- Created web interface using Vaadin to allow users to generate desired circuit functions

Projects

Chess Game (github.com/daniel-zeng/ChessGame) (Python, tkinter)

- Implemented minimax tree search with Alpha-Beta pruning, and position evaluation functions (piece square tables/piece values) to optimize the AI engine
- Playable through graphical user interface and command-line with algebraic notation

Also on Github**:** Markov models for text generation, Variational autoencoder for MNIST generation