JOSHUA CHEN

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University of California, Berkeley, *(Junior)* *Computer Science/Data Science* *Aug. 2017 - May (2020)*

INTERNSHIPS/WORK EXPERIENCE

SKM Systems Analysis | Redondo, CA***, Engineering Intern*** *May 2018 - Present*

- Main project this summer involved the creation of an installation package, managed prerequisites and redistributables, and formatted hundreds of .dll files for the launch of the new company software PTX; Worked with Power Tools software to validate and model time current curves for power tools like fuses, relays, and breakers; organized company database for IEC low voltage breakers (over 500 breakers of different makes and models); collaborated with co-workers on a project involving modeling over 200 Southwire low/high voltage power cables; working closely with clients from over 500 electrical engineering companies on answering daily requests; worked remotely during the academic year.

CS 61B Lab Assistant *August 2018 - Present*

- CS61B, Data Structures, helping guide students working on various projects, specifically data structures and algorithms, weekly labs and homework assignments; holding office hours weekly.

SKILLS

Computer Languages:
~Java ~Python ~SQL ~C/C++ ~HTML/CSS/Javascript/jQuery

Framework/Technologies:
~Git ~TensorFlow ~Django ~Flask ~Node/React

TECHNICAL COURSES

Computer Science
Internet: Architecture & Protocols, CS 168
Computer Architecture, CS 61C
Artificial Intelligence, CS 188
Data Structures and Algorithms, CS 61B
Structure and Interpretation, CS 61A

Data Science
Database Systems, CS 186
Stochastic Processes, Ind Eng 173
Principles and Techniques, CS C100
Foundations of Data Science, CS C8

Mathematics
Concepts of Probability, Stat 134
Discrete Math and Probability Theory, CS 70
Linear Algebra, Math 54

PROJECTS

- **Safest Route with MapBox API:** Designed a safest route algorithm using public Berkeley crime dataset for CalHacks 6.0. Modeled and trained datasets using Tensorflow to find optimal weights of different types of crime to be used in the algorithm to best predict the safest route.
- **Digit/Language Classification:** Modeled, trained, and built linear and nonlinear multi-layered neural networks to classify hand-written digits with accuracy of up to 99% and language identification with accuracy of up to 85%.
- **Spam Filter for Emails:** Applied skills in feature engineering, cross validation, and logistic regression to train and model a spam filter. Placed 3rd in entire class with a 99.7% accuracy.
- **PacMan:** Implemented search algorithms, game trees, and reinforcement learning (Q-learning, Value Iteration, Policy Iteration) for autonomous PacMan game. Modeled and built several different types of Bayes Nets and Hidden Markov Models including methods like Particle Filtering and Learned Inference for a learning PacMan agent.
- **Bear Maps:** Worked with graphs and other data structures to build an interactive map of the entire Berkeley area using JAVA and IntelliJ IDEA. Functionalities include route search, location data, restaurant ratings.
- **Scheme Interpreter:** Designed an interpreter for a subset of the Scheme language with certain basic functions using Python, Atom IDE.
- **Ants V.S. SomeBees:** Developed a parody tower defense game of Plants v.s. Zombies using Python.

EXTRACURRICULAR ACTIVITIES/INTERESTS

Piano, *Student, Teacher, Performer* *~ Present*

- Won multiple awards and recognitions from the regional to the international level; trained, experienced, and certified performer. Taught piano to young children and introduced them to the fundamentals of music.

Production Assistant *August 2018*

- Volunteered with fellow production assistants, director Darryl Jones, cast, and crew on short film *All of This* in the Oakland area. The film went on to win multiple awards and was presented in a multitude of screenings in the Bay Area.