Alex Xie

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA
B.S. in Computer Science **Expected:** May 2023
GPA: 3.9/4.0
Coursework: Distributed Systems, Machine Learning, Deep Learning, Natural Language Processing, Algorithms and Data Structures, Computer Systems, Functional Programming, Signal Processing, Digital Logic, Discrete Mathematics, Linear Algebra

TECHNICAL SKILLS

Languages: Python, Java, C, Javascript, HTML, CSS, SML, MATLAB, Go
Technologies: NumPy, PyTorch, AWS, Firebase, Flask, React, MaterialUI, LaTeX, Git, Unix, Android development

WORK EXPERIENCE

DialRC REU Intern **Jun 2021 – Aug 2021**
Supervised by Shikib Mehri and Dr. Maxine Eskenazi
Researched usage of structured graph representations, or schemas, in transfer learning for deep-learning based dialog systems. Applied a hybrid of rule-based and neural methods to evaluate and clean dialog datasets, built a React application to visualize datasets in the browser, and retrained models on the cleaned data.

Undergraduate Teaching Assistant **Jan 2020 – Present**
CMU 15-112: Fundamentals of Programming and Computer Science
Taught F21, N21, F20, N20, and S20 semesters. Responsibilities include creating course content, holding recitations and office hours, grading assignments, mentoring student term projects, and organizing course-wide events.

Software Engineer Intern **Jan 2021 – Aug 2021**
Spark Your Startup
Worked on an Android mobile application allowing users to directly provide monetary support to digital content creators. As a backend engineer, integrated Firebase authentication and data storage into the application.

PROJECTS

Neural Reverse Dictionary
Advised by Prof. Kemal Oflazer
Designed novel neural approaches to the reverse dictionary task (given a definition or description of a word, retrieve the word itself) that injected additional lexical information into existing BERT-based methods, yielding models with greater generalizability.

Fantasy Premier League Helper
Web application that scrapes and displays fantasy soccer information about players, teams, matches, and users, and employs Naive Bayes and LSTMs to predict time series data. Built with React and Flask.

ACTIVITIES

Data Science Club **Feb – Dec 2020**
Worked in a 5-person team to implement a Tetris AI using deep q-learning and Monte Carlo tree search; created visualization of model gameplay.

CMU Science Olympiad **Jan 2020 – Present**
Wrote and graded exams for Astronomy, Circuit Lab, and Detector Building events for CMU High School Science Olympiad Tournament.