Richard Chen

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Education

Stanford University *Expected Jun. 2023*

B.S. Candidate, Computer Science *GPA: 3.97*

- Relevant Coursework: NLP with Deep Learning, Operating Systems Design and Implementation, Design & Analysis of Algorithms, Principles of Computer Systems, Artificial Intelligence, Discrete Math, Probability

Work Experience

Citadel Securities *Starting Sep. 2022*

Software Engineering Intern *New York, NY*

Meta *Starting Jun. 2022*

Software Engineering Intern *Menlo Park, CA*

Stanford Department of Computer Science *Sep. 2021 - Present*

Section Leader (TA) *Stanford, CA*

- Lead weekly sections, host office hours, grade, and teach core introductory CS concepts to Stanford CS106 students

Wells Fargo *Jun. 2021 - Aug. 2021*

Software Engineering Intern *San Francisco, CA*

- Worked in Technology Analytics with scrum and Agile methodologies to timely deliver Machine Learning use cases
- Queried and performed feature engineering on 500,000+ data points using SQL; managed databases with Aqua Data Studio
- Analyzed 20+ ML models created with DataRobot; developed Power BI reports to present results to company leadership

DoctorLingo *Apr. 2020 - Jun. 2021*

Frontend Lead *San Diego, CA*

- Used React and Typescript to develop Doctorlingo.com, a crowdsourced hub of medical definitions for patients
- Led front-end team of ~15 developers by leading meetings and managing workflow + issue creation in GitLab
- Spearheaded integration of Optical Character Recognition with Tesseract.js to automatically translate uploaded patient medical files

Element Biosciences *Jul. 2020 - Oct. 2020*

Software Engineering Intern *San Diego, CA*

- Designed and optimized image processing algorithm to increase speed by 10x using C, pointer manipulations, and SIMD instructions
- Proved quality and consistency of algorithm exceeding company standards by gathering and statistically analyzing 90,000+ image data points

Project Experience

HABSIM, Stanford Student Space Initiative | Linux, Python, Flask, Apache *Sep. 2020 - Present*

Project Lead *Stanford, CA*

- Developing flight trajectory simulator habsim.org and maintaining Linux virtual machine + server environment that supports application
- Streamlined and improved consistency of Python/Flask backend using NumPy to automatically fetch, process, and store GEFS wind data

Stanford ACM Machine Learning Group | Python, Jupyter Notebook, PyTorch *Sep. 2020 - Present*

Machine Learning Researcher *Stanford, CA*

- Conducting NLP Visual Question Answering (VQA) research and competed in the 2021 Chart Question Answering Challenge
- Achieved 90% cross validation accuracy using PyTorch CNNs to recognize visual data in line and bar charts; used PyTesseract OCR for text processing
- Leveraged techniques in OpenCV like Gaussian Blurring and image erosion/dilation to improve OCR effectiveness

Stalemate | C++ *Nov. 2020*

Independent Project *Stanford, CA*

- Used C++ and the Stanford library to develop the 'World's Worst Chess Engine', which will always position pieces to stalemate an opponent
- Implemented recursive backtracking and pruning to design an optimized greedy algorithm with graphics

San Diego Supercomputer Center, UCSD | Python, Google Cloud, Jupyter Notebook, Keras *Aug. 2018 - Jun. 2020*

Research Intern *San Diego, CA*

- 2019 AIMed Research Abstract Winner: Used machine learning in computational biology to predict 300+ drugs to treat diabetic cataracts
- Achieved 96% cross validation acc. deep neural network using Keras, NumPy/Pandas for feature engineering, and Hyperas hyperparameter tuning

Skills

Languages: Python, C++, C, Java, SQL, JS, HTML/CSS
Technologies: Git, Jupyter Notebook, Google Cloud
Frameworks: NumPy, Pandas, React.js, PyTorch, Flask, Node.js
Other: Linux, Agile, Scrum, LaTeX