

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

Tools: Git, Jupyter Notebook, Google Cloud

Frameworks: React.js, PyTorch, NumPy, Pandas, Flask, Node.js

Other: Linux, Agile, Scrum, LaTeX