

Charlie Zhao

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Education

University of California, Irvine

2021 - Present

- Expected graduation in June 2024 with B.S. in Computer Science, GPA: 3.6
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Projects

Starcraft Skill Estimation

- Generated factor based models using ~190000 professional matches to evaluate how skill estimation models compare to real world tournament results and online sentiment
- Identified race advantages in model rating using random sampling, tracked individual player growth and relative rating across three expansions using model estimations

ICS Search Engine

- Developed a local search engine with a domain of over UCI ICS 50000 web pages using custom tf-idf and page rank algorithms for query ranking.
 - Custom indexing algorithm using BeautifulSoup to filter and highlight significant html tags by weighing them more heavily, with NLTK based parsing to eliminate stop words.
 - Designed and implemented an external GUI mimicking web search engines, displaying sorted hyperlinks and search heuristics, with an interactive search bar and page navigation.
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Experience

Galaxy Raider - Audio Designer

Mar 2022 - May 2022

- Worked closely with team lead to realize their vision for the background music of the 3D action-platformer Galaxy Raider, produced the backing track for game demo.

Asteroidvania - Game Designer and Audio Producer

Oct 2021 - Dec 2021

- Co-designed level layouts, player progression, and level interaction for 2D platformer Asteroidvania, produced background music for game demo.

Irvine CubeSat - Propulsion Team Member

Sep 2019 - Apr 2020

- Development on Irvine CubeSat's third satellite, Irvine03, to be sent to space in partnership with SpaceX.
- Programming on propulsing system using Python, based on gyroscope data, to correct satellite alignment for its mission of nebula photography.
- Created and administrated a Discord server as a means of communication between different team members and mentors, primary documentation writer for the propulsion team.

Leaders in Training - Assistant Counselor

June 2019 - Aug 2019

- Set up activities, supervised and guided children's conduct, and ensure the children's safety at Irvine community centers summer day camps.
 - Language support in Chinese and English for ESL children and parents.
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Related Coursework

Programming in Python, C++, Data Structures Implementation and Analysis, Design and Analysis of Algorithms, Intro to Artificial Intelligence, Machine Learning & Data-Mining, Information Retrieval, Boolean Algebra & Logic, Algorithms for Probabilistic & Deterministic Graphical Models

Skills Summary

Languages: Python, C++, HTML

Tools: NumPy, Sci-kit Learn, PyTorch, Matplotlib, Git, Linux