Weihong Cen

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Highly motivated computer science student seeking opportunity to further skills in machine learning, data analysis, and more. Eager to apply development and data analysis skills to real world challenges.

Education

California Institute of Technology, Pasadena, CA **Sep 2021 – Present**

Major: Computer Science **GPA:** 3.6/4.0

Relevant Coursework: Machine Learning & Data Mining, Learning Systems, Relational Databases, Web Development, Operating Systems, Networks, Compilers, Algorithms, Computing Systems

Clubs: Caltech Data Science Organization

Experience

Airstrafe Interactive — Software Engineer Intern **Jun 2023 – Sep 2023**

- Successfully reduced memory consumption by over 50% using the Addressables asynchronous loading system, enabling the use of higher fidelity textures/models and greatly enhancing user experience.
- Spearheaded the Saleblazers game launch on the Mac platform by establishing a new Mac build pipeline, employing bash scripts to efficiently automate Unity build, API authentication, and Steam upload processes.
- Developed a remote build management system using Python, enabling remote initiation and termination of build processes, providing an overview of changelogs contributed by multiple developers, and ensuring a secure storage of build logs. This system effectively integrated our Jenkins servers with Discord, optimizing development workflows.

NASA Jet Propulsion Laboratory — Research Intern **Jun 2022 – Aug 2022**

- Conducted in-depth examination of temperature anomaly trends in 26 subregions spanning the 7 continents by interpreting GISS data using Python.
- Collaborated with fellow researchers to compare and analyze data from CMIP6 climate models.

NASA Jet Propulsion Laboratory — Research Intern **Jun 2021 – Sep 2021**

- Investigated the effects of Covid-19 lockdown policies on air quality, examining the correlation of public health policies, such as business shutdowns, with pollution. Employed Python to preprocess government/publically available data.
- Analyzed and presented findings in conferences on countries' pandemic response intensity with air quality trends.

NASA Jet Propulsion Laboratory — Research Intern **Jun 2020 – Sep 2020**

- Researched method for deriving exoplanets' rotational period from low-resolution observations. Presented research progress in seminars and published a paper in the Caltech archive.
- Leveraged time-series analysis methods using Python and extended the study on the effects of atmospheric aerosols and vegetation on irradiance.

Projects

Poetry Generator **Mar 2024**

Utilized HMM and RNN architectures to train models on Shakespearean sonnets and Spenser's Amoretti using PyTorch. Implemented constraint modeling to generate alternative poetry forms like Haikus and Limericks.

Customer Retention Prediction **Feb 2024**

Constructed a deep learning network using PyTorch. Achieved an 81% accuracy in predicting customer retention for a telecom service using demographic data.

Fish to Fortunes **Jun 2023**

Created an interactive fishing game website using HTML5, CSS, and JavaScript. Managed backend operations through Azure server and utilized MySQL database for data management.

Skills

- **Programming:** Python, C, Java, OCaml, MATLAB, R
- **Full Stack Web Development:** React, HTML, JavaScript, CSS, MySQL
- **Game Development:** C#, Unity, Mirror/Photon Networking, Photoshop, sequencer
- **Language:** English, Mandarin