Leo Yang

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EDUCATION

California Institute of Technology Pasadena, CA
B.S. Computer Science, Data Science Minor September 2020 – June 2024
- GPA: 4.0

WORK EXPERIENCE

Software Engineering Intern North Logan, UT
Space Dynamics Laboratory June 2023 – Present
- Developed a Python container using Docker and deployed it with Kubernetes to integrate Python functionality into a C# project, thereby enhancing portability and scalability.
- Implemented HTTP-based communication between microservices using Apache ActiveMQ, enabling smooth integration and exchange of data in a distributed architecture.

Data Science Intern Pasadena, CA
Caltech Rise Program May 2023 – June 2023
- Engineered data regarding over 300 students and tutors who participated in Rise Tutoring.
- Leveraged spreadsheets and data analysis techniques to uncover insights and tell compelling stories about the program's effectiveness and the students involved.

Computer Science Teaching Assistant Pasadena, CA
Caltech CS4: Fundamentals of Computer Programming January 2023 – March 2023
- Helped class of over 90 students learn about OCaml and the fundamentals of functional programming, highlighting important concepts such as recursion, complexity, and abstraction.
- Held weekly office hours for one-on-one sessions with students who needed additional help, addressing both conceptual and technical concepts.

Undergraduate Researcher Pasadena, CA
Caltech SURF Program- Kasliwal Lab June 2021 – August 2021
- Developed code for SkyPortal, an open-source data platform for astrophysicists. Worked under Dr. Robert Stein with the Kasliwal Research Group and the Fritz Marshal dev team.
- Used ReactJS and Python to implement 2 new frontend components and 3 new backend API endpoints to help streamline the analysis of over 2500 GCN Events saved in the database. These additions will aid in the research of kilonovae during LIGO/Virgo/KAGRA's O4 observing run.

PROJECTS

2D Platformer Game
- Created a physics engine in C that simulated forces and collisions. This engine was then utilized to create a multiplayer game that involved creating multiple levels, obstacles, and platforms for the players to traverse.

E-Commerce Store
- Designed a full-stack e-commerce store website using JavaScript, Node, HTML, and CSS.
- Implemented REST API functionality by successfully creating over 5 endpoints to implement features such as real-time inventory updates, sales promotions, and product categorization.

Household Utility Consumption Management Website
- Created Zap, a website for Hacktech 2023 at Caltech to monitor household energy consumption and promote environmentally-friendly practices. Used React and Python to build the site.

Esports Winner Predictor
- Scraped data and built random forest, dense neural network, and logistic regression models for predicting winners in League of Legends esports using TensorFlow. Final results yielded 80%+ test set accuracy.

SKILLS

- **Programming Languages**: Python, C, Java, Javascript, OCaml, Haskell, MySQL
- **Programming Skills:** Machine Learning (PyTorch, Tensorflow), Relational Databases, Object-Oriented Programming, Full-Stack Web Development (React, Node), Functional Programming, Docker
- **Software/Tools**: VSCode, Git, MS Office, Matlab, Linux

LEADERSHIP EXPERIENCE

Blacksburg High School Swim & Dive Team Blacksburg, VA
Team Captain September 2019 – March 2020
- Coordinated team events and led practices for over 25 team members
- Led team to second state championship in school history

HONORS & INVOLVEMENT

- Caltech Varsity Swim Team, involving 15+ hours of weekly commitment; NCAA Division III All-American
- Caltech Dean's Tutor; Privately tutored students in a variety of subjects including math and computer science
- Caltech Hackathon 2023 Best Beginner Project Winner - 1517 Grant Recipient