Stanley Yang

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SKILLS

- **Programming Languages:** Java, C/C++, Python, MATLAB, JavaScript/TypeScript, SQL, OCaml, Racket, Excel
- **Frameworks:** JUnit, ReactJS, PyTorch, Java Spark, Java Swing, NumPy, MVC, Figma, Flutter, DuckDB

EDUCATION

University of Washington, Seattle, WA — Expected Graduation: June 2025

Bachelor of Science in Computer Science, Major GPA 3.91/4.00

- Relevant Courses: Probability and Statistics, Software Design and Implementation, Data Structures and Parallelism
- UW ICPC Winter Programming Contest 2024 - Second Place

WORK EXPERIENCES

Teaching Assistant, Seattle, WA — Mar. 2023 – Present

Teaching Assistant in CSE 341 & CSE 413 Programming Languages for three quarters

- Led course on functional programming, language design and **interpreter construction**, using OCaml and Racket
- Conducted weekly quiz sections and held office hours for **80+ students**, addressing diverse learning needs
- Assisted professor in homework design, autograder setup, and coordinated TA grading for **600+ assignments**
- Contributed to **infrastructure development**, designing homework, and writing autograders with **test code**

Research Assistant, Seattle, WA — Jun. 2023 – Aug. 2023

UW PLSE (Programming Languages and Software Engineering) Lab

- Developed **SQLite** scripts to streamline importing and testing process on datasets with **400+ million data points**
- Conducted **data preprocessing** by parsing and cleaning raw data to address various complex formatting issues
- Expertly executed **16,000+ view scripts and complex queries** on bulk data, ensuring scalability and robustness

PERSONAL PROJECT

Primitive Tagging for Everyday Objects Research, Seattle, WA — Jan. 2024 – Present

- Developed **user-in-the-loop** methods for tagging **mesh input** or suggesting geometric primitive type/parameters.
- Addressed mesh-to-primitive matching challenges with an **OnShape** plugin, pinpointing potential primitive regions
- Applied parametric primitive shapes fitting through **point clouds** and **differentiable rendering** on **PyTorch**
- Employed a blend of **pure graphics**, traditional **vision** approaches, and **3D learning**-based strategies

CaCL (Change and Chance Language) Interpreter & Compiler Project, Seattle, WA — Jan. 2024 – Present

- Implemented parsing, type checking, annotations, template expansions, mutations, and diverse data type support
- Authored **1300+ lines of tests**, thoroughly validating interpreter functionalities and error-handling mechanisms.
- Employed **compiler rewrite strategies** to optimize code dependencies and **boost compilation speed**
- Innovative features like parallel let, short-circuiting, and higher-order functions **augments language capabilities**

Campus Path Finder, Seattle, WA — Feb. 2023 – Mar. 2023

- Developed a **generic ADT** and applied it to a campus map using **Java**, tested with **5000 lines** of **JUnit tests**
- Designed a **web app** and utilized **React** and **Java Spark framework** to create a user-friendly **GUI**
- Analyzed a **database** comprising **5000+** campus coordinates for navigation between **52** buildings
- Applied **MVC (Model-View-Controller) pattern** for GUI and employed **Dijkstra's algorithm** for navigation

"Buddies" App at DubHacks '22 Hackathon, Seattle, WA — Oct. 2022

- Led a team of four as the **Project Manager** and **UI/UX Designer** for the "Buddies" App using **Flutter framework**
- Orchestrated team brainstorming sessions, managed project timelines, and designed the **GUI** using **Figma**
- Showcased our project through a video demonstration and live presentation to a panel of judges

EXTRACURRICULAR/COMMUNITY INVOLVEMENT

Student Volunteer in ACM SIGMOD conference 2023, Bellevue, WA — Jun. 2023

- Volunteered for **six research and tutorial sessions**, assisted **500+ leading scholars in the database field**
- Supported session chairs and presenters in preparing session slides and videos, aiding conference proceedings
- Facilitated prompt audio issue resolution by liaising with the technical team for a cohesive audio experience