

MAX HUANG

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EDUCATION

University of Waterloo | Bachelor of Computer Science

09/2020 – 04/2025

- 3rd-year (Junior) student; 3.65 GPA; President's Scholarship and Lloyd Switzer Scholarship recipient.
- **Course Topics:** Data Structures, Algorithms, Object-Oriented Development, Compilers, Computer Design, Mathematics, Statistics
- **Clubs:** WATonomous (Autonomous Vehicle club), Archery Club

SKILLS

- **Concepts:** Data Structures, Algorithms, Machine Learning, Distributed Systems, Natural Language Processing
- **Languages:** Python, C, C++, SQL, JavaScript/TypeScript, React, Svelte, Kotlin, R, HTML/CSS, Racket
- **Technologies:** NumPy, Pandas, Scikit-learn, TensorFlow, Apache Spark, Unix/Linux, Bash, Node.js, Flask, Git, AWS, GCP

EXPERIENCE

Datamuse | Research Software Developer Intern (NLP)

San Francisco, CA | 09/2022 – Present

- Used machine learning classification algorithms (K-Means Clustering, HDBSCAN) to generate a table of contents for OneLook, an online thesaurus, improving OneLook's search engine optimization and content discoverability.
- Extrapolated ideas from a NLP research paper to rank 2,000,000+ phrases by humor using Scikit-learn's machine learning models.
- Used Apache Spark to process 30+ GB of distributed data to identify usage examples for English phrases and their variations.
- Designed the front-end architecture for Verbloom, a semantics-based educational word game, and led its front-end development.
- Led the prompt engineering process for a GPT-3 pipeline that titles Datamuse's word clusters, improving the title generation accuracy by (est.) 17% and reducing the number of duplicate titles by 69.7%.

Surfboard | Full-stack Developer Intern

Foster City, CA | 01/2022 – 04/2022

- Developed a Node.js app that integrates Surfboard features (e.g. comments, notifications) into Slack to simplify Surfboard usage; used AWS Lambda and DynamoDB alongside OAuth 2.0 to implement scalable and secure communication between Surfboard and Slack.
- Implemented Surfboard's slide deck presenter, a feature that generates slideshows based on users' meeting notes, streamlining clients' meeting workflows and reducing meeting preparation times by (est.) 10 mins per meeting.
- Collaborated with developers and used React to implement Surfboard's new UI layouts and standardize its UI components.
- Reviewed and participated in merge requests to catch styling inconsistencies and suboptimal algorithms ahead of pre-production.

Tjene Corp | Front-end Developer Intern

Toronto, ON | 05/2021 – 08/2021

- Contributed to the development of Kurve, a data visualization tool, and its UI optimization (e.g. improving accessibility) using React.
- Integrated 3 different table layout choices into Kurve's "reports" widget to display data with varying compactness and detail, improving text legibility for different-sized display resolutions (e.g. optimization for widescreen monitors).
- Programmed 2 custom dashboards that visually presents 40,000+ data points each using tables, graphs, and other charts.
- Assisted with the end-to-end testing of Kurve, and fixed multiple front-end bugs discovered throughout the testing process.

PROJECTS

FunnyBone Search Engine | Python, Scikit-learn, Flask, SQLite

funnybone.maxhuang.dev

- Created (with guidance) a search engine that uses machine learning (linear regression) to find the funniest words related to a prompt.
- Applied natural language processing techniques (e.g. distances between word embeddings) to handle the semantic aspects of humor.

Maze Notepad | React, Node.js, MongoDB

maze-notepad.github.io

- Created a maze editor and an online maze gallery, letting users quickly and easily create, solve, and share standard mazes.
- Implemented maze generation using data structures (e.g. graphs, disjoint sets) and graph theory algorithms (e.g. Kruskal's MST).

AWARDS

- **nwHacks:** 3rd Place; Best use of Microsoft Azure (Hon. Mention) 01/2022
- **Hack the North (Canada's largest hackathon):** Finalist (Top 4%) 09/2021