Aditya Khowal

425-628-9155 | akhowal@uw.edu | https://www.linkedin.com/in/aditya-khowal | https://github.com/AdityaKhowalGithub

Education

B.Sc Informatics, Minor: Statistics | 3.8 GPA, 5x deans list 06/2025 | **University of Washington**

Relevant Classes: Data Structures & Algorithms, Data Science, Artificial Intelligence, Search & Recommendation systems, Database Systems, Front-End development, Algorithms & Computational Complexity, IOS Mobile App Dev

Skills: Python, C++, C#, SQL, Java, Pandas, LaTeX, Golang, Object-oriented Programming, Vim Programmer, NLP, Big Query, Kubernetes, Docker, Git, Swift, Agile, backend, cross functional, Node, time management| *Learning:* Rust

Experience

Incoming Software Development Engineer Intern | Amazon June 2024 - September 2024

- SDE intern in alexa org

Artificial Intelligence Research Intern | University of Missouri May 2023 – August 2023

- Reduced simulated blood waste by **15%** by developing a data-driven **stochastic time series model** in Python to predict blood usage and optimize ordering policy through ML model testing with gurobipy.
- Achieved **80%** confidence in decoding nanopore signals by evaluating data storage techniques and reverse engineering signals using machine learning models like Guppy and Chiron.

Software Engineer Intern | Bond Intelligence/OpenEXA June 2021 - September 2022 Seattle, WA

- Increased user engagement by **40%** by developing a full-stack web application in **Python, React, and Google BigQuery**, providing **10,000+** clients with user-friendly access to critical municipal bond and finance data.
- Optimized web app performance by decreasing load times **70%** through SQL-based data pre-processing, **Docker** containerization, and **Kubernetes** deployment on **Google Cloud Platform** for enhanced scalability and security.

Projects

Monkey lang VM | *Rust — Internal System — Assembly* In Development

- Developing a **language interpreter** for the Monkey lang programming language using **Rust**, leveraging computer architecture and tiny assembly for optimized bytecode execution with rigorous testing.

Husky Hold 'Em | *Go — System Design — Docker* Winter 2024

- Developing a poker interface in **Go**, enabling participants to submit coded bots for scheduled tournaments in the Algorithmic Trading club, with gameplay logic simulated in **Python and Docker containers** running participants' code.

uDub Search | *Python — PhP — Natural Language Processing — Collaborative Recommendation* January 2024

- Implemented tokenization, stemming, indexing, and vector representation techniques using Python NLP libraries to develop a **search and recommendation system** for over **4,500 posts** on the University of Washington subreddit.
- Personalized recommendations by **integrating a collaborative filtering system** in Python and PHP.

NanoGPT Philosopher | *Python — PyTorch — Transformers — Language Model* Summer 2023

- Generated philosophical content through training and fine-tuning a **transformer model** using **Python, PyTorch**, and a dataset of over **50,000 pages** from Immanuel Kant's works, achieving an impressive average perplexity score of **1084** validated by GPTZero.

Community & Leadership

SWECC Officer - External Head | Software Engineering Career Club August 2023 - Present

- Spearheaded initiatives like LinkedIn workshops and resume reviews, organizing club events, fostering leadership, organization, and communication skills.

Teacher Assistant — Front End development | University of Washington iSchool June 2023 - September 2

- Enhanced learning outcomes for over **50 students** by teaching front-end development using **HTML, CSS, JavaScript, and React** to build interactive web applications, while providing valuable assistance through weekly lab sessions and office hours.

Python Lead | Stanford 106A Jan 2023 - March 2023

- Facilitated effective learning for **10 students** in **Stanford's** introductory **CS 106A Python course**, creating engaging lesson content and slides, leading weekly sections, and fostering a supportive learning environment through campfire office hours.