

# Pranav Varshney

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## EDUCATION

### University of Michigan

May. 2026

B.S, Computer Science & Statistics

Ann Arbor, MI

**Courses:** Computer Organization, Computer Theory, Web Systems, Data Structures, Algorithms, Linux, Databases, Operating Systems\*, Natural Language Processing\*, Computer Networks\*, Deep Learning\*

**Activities:** Python Teaching Aide, Research & Discovery Scholars, Michigan Hackers, Poker Club, Pickle ball

## PROGRAMMING SKILLS

**Languages:** C++, C, C#, Python, R, HTML/CSS, Javascript, SQL, LaTeX

**Technologies:** Git, Linux, JIRA, Docker, MySQL, MongoDB, PostgreSQL, Flask, React.js, .NET

## TECHNICAL EXPERIENCE

### Software Engineer Intern

May. 2024 - Aug. 2024

United Wholesale Mortgage

Pontiac, MI

- Piloted a data **pipeline** in **C#** & **SQL** to populate a change insights datalake; analyzed code issues in **Python**
- Reengineered databases to migrate to Google Cloud Platform; wrote **Python** scripts to monitor GCP overuse
- Launched a **Python** model with risk & underwriting to classify loan failure, saving **\$10,000** in 3rd Quarter

### Data Science Intern

Jan. 2024 - May. 2024

Outlier

Remote

- Maintained scalable data pipelines in **Python** & **SQL** to support user analytics; improved performance by **3ms**
- Constructed visual aids in **Python** highlighting trends in common search queries, improving search algorithm
- Documented **data models** & **ELT processes** for investors, clarifying technical details for new business strategies

### Web Developer

Oct. 2023 – Apr. 2024

The Michigan Daily

Ann Arbor, MI

- Lead error handling & debugging processes, fixing **75+** website errors to make user experience more enjoyable
- Increased website efficiency by **44%** reducing redirects & http requests, raising engagement length by **10%**

### Software Engineer Intern

Jun. 2023 – Sept. 2023

Ratna Global Technologies

Newark, CA

- Spearheaded construction of a **Node** & **React** website used to control a vehicle rental service with **5+** locations
- Built a custom chatbot using open source **OpenAI** that automates customer service requests based on client data

### Undergraduate Researcher Assistant

Apr. 2023 – Jun. 2023

The Big-DIG Research Lab

Ann Arbor, MI

- Employed a custom school sorting function in **Python** to sort **750+** schools, guiding lab to conclude in **2** months
- Demonstrated a 99.5% statistical significance test through supplemental simulations & visual aids in Python

### Undergraduate Researcher Assistant

Jan. 2023 – Apr. 2023

London Business School

Remote

- Leveraged **Python** to pipe data from **500** contracts into a mimicked SQL database; optimized extraction by **25%**
- Determined **90%** confidence in differences between internal & external contracts through **R** statistical analysis

## PROJECT EXPERIENCE

**ChessNav:** Innovated a chess evaluation tool in **Python** with **95%** accuracy in comparison to top engines for 2024 Candidates tournament. Integrated Leila & Stockfish to run **parallel** simulations for World Chess Championship analysis

**GlassNav:** Applying object oriented **C++17** & **Micropython** to develop custom smart glasses with image, video & audio capturing features & an integrated AI system to provide responses about the day based on media recorded

**C++ Standard Library:** Leveraged **C++20** features to implement & optimize data structures & algorithms in standard library, enhancing code efficiency & maintainability while staying up-to-date with language advancements.

**SQL Imitation:** Mimicked simple SQL functionality in **C++17**, customizing C++ functionality via shell scripting. Harnessed improved SQL functionality to restructure previous research projects, boosting runtime efficiency by **15%**