






Pranav Varshney

 [Pranav Varshney](#)  [Github](#)  [Email](#)  [US Citizen](#)  [\(636\) 675 0940](#)

EDUCATION

University of Michigan

Ann Arbor, MI

Bachelors of Science in Computer Science & Statistics

May. 2026

CS Courses: Data Structures, Algorithms, CS Theory, CS Organization, Database Systems, Web Systems

Stats Courses: Computational Statistics, Data Analysis, Linear Algebra, Calculus I-III, Probability Theory

Extra-curriculars: Michigan Hackers, Michigan Research and Discovery Scholars, Michigan Poker Club

TECHNICAL EXPERIENCE

United Wholesale Mortgage

Pontiac, MI

Incoming Software Engineer Intern

Starting May. 2024

The Michigan Daily

Ann Arbor, MI

Web Developer

Oct. 2023 – Apr. 2024

- Lead error handling and debugging processes, fixing 50+ website errors to make user experience more enjoyable
- Cut down website vulnerabilities by 40% with team, maintaining site's integrity through user authentication
- Increased website efficiency by 44% reducing redirects, and http requests causing 10% rise in engagement length

Ratna Global Technologies

Newark, CA

Software Engineer Intern

Jun. 2023 – Sept. 2023

- Spearheaded construction of a Node & React website used to control a vehicle rental service with 50+ locations
- Oversaw project front to end through streamlined communication in slack, adhering to proper agile development
- Addressed customer service requests and issues by integrating an AI chatbot using OpenAI's API as a resource
- Increased website efficiency by 60%, and improved user engagement by 33% by collaborating with team of 4

RESEARCH EXPERIENCE

The Big-DIG Research Lab

Ann Arbor, MI

Undergraduate Researcher Assistant

Apr. 2023 – Jun. 2023

- Developed a Python sorting algorithm that sorts school ranks and location from 750+ schools automatically
- Launched a postgresSQL database to regulate data manipulation, reducing time taken to access data by 2+ minutes
- Guided lab to conclude 2 months ahead of schedule, adhering to proper agile development methodology
- Created a 99.5% statistical significance test to find relevance through exporting and analyzing data in R Studio

London Business School

Remote

Undergraduate Researcher Assistant

Jan. 2023 – Apr. 2023

- Leveraged natural language processing to extract data from 2,500+ contracts using the NLTK library in Python
- Constructed a postgresSQL database to manage data manipulation, decreasing time taken to access data by 25%
- Determined 95% significant difference in structure of internal and external contracts through Microsoft Excel
- Presented findings to over 1000 participants at annual Michigan Research and Discovery Scholars symposium

PROJECT EXPERIENCE

C++ Standard Library: Leveraged C++17 features to implement and optimize data structures in standard library, enhancing code efficiency and maintainability while staying up-to-date with latest language advancements.

TSP: Implemented a branch and bound algorithm to speed up the brute force solution for the famous TSP, implementing a custom arbitrary insertion heuristic to improve the time complexity by a more accurate upper-bound calculation.

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

PROGRAMMING SKILLS

Languages: C/C++, C#, Python, Java, R/RStudio, HTML/CSS, Javascript, PostgreSQL, LaTeX

Technologies: Linux, Unix, Git, nano, nvim, MacOS, Windows, Visual Studio, VScode, Xcode, Zed, JIRA, Docker

Libraries and Tools: Pytorch, Tensor, Scikit-learn, Pandas, Numpy, NLTK, Matplotlib, Jupyter Notebook