Nidhil Nayudu

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EDUCATION

University of Michigan College of Engineering - Ann Arbor, MI   Dec 2025
Major: B.S.E Computer Science, **Minor:** Ross Business   GPA: 3.84/4.00
Relevant Coursework: Data Structures & Algorithms, Web Systems, Networking, OS, Computer Security, Machine Learning

SKILLS

- **Languages:** Python, C/C++, JavaScript/TypeScript (Node, Next, React), Flask, SQL, HTML, CSS
- **Technologies:** Git, WSL, Amazon Web Services, Tensorflow, PyTorch, Jupyter Notebook, Docker, Streamlit, VSCode
- **Concepts:** Object Oriented Programming, Software Dev, Machine Learning, Artificial Intelligence, REST APIs, Agile

WORK EXPERIENCE

CGI   Starting June 2025
Incoming Software Developer Intern   *New York, NY*

4Human Corporation   May 2024 - Sept 2024
Software Engineer Intern   *New York, NY*
- Coordinated **sprint** planning with a client in Uganda, setting clear project goals and restructuring design process for a **15% reduction in development cycle time** for a charitable e-commerce platform that connects with previous donors
- Integrated **Firebase** authentication and Firestore database to manage **30+** products, users, and orders
- Upgraded **10+** CRUD API endpoints as controllers through **Node.js**, reducing overall database query time at scale

University of Michigan EECS 280: Programming and Data Structures   Aug 2024 - Present
Instructional Aide (TA)   *Ann Arbor, MI*
- Support **1000+** students by leading weekly lab sections and offering personalized assistance during office hours
- Selected as **1 of 5** from 250+ applicants to initiate faculty discussions to streamline exam logistics, refine curriculum delivery, and enhance student comprehension of complex concepts such as **polymorphism, recursion, and BSTs**

PROJECT EXPERIENCE

JobAlign: Resume Optimizer - Project Lead | Python, Machine Learning, NLP, RAG, APIs
- Engineered a custom **SpaCy NLP pipeline** to parse, match, and heuristically optimize resumes for job postings, using a combination of **semantic similarity** and **TF-IDF** scoring, with a tentative **75% parsing accuracy**.
- Designed and deployed a scalable **SaaS platform** with REST APIs for resume storage and dynamic job matching
- Integrated a chatbot offering personalized feedback and interactive guidance for efficient recruitment strategies

Thread Library | C++, Multithreading, Unix, OS
- Crafted an advanced **C++** thread library with meticulous implementation of **Mutexes, Threads, and Conditional Variables**, featuring essential functions like lock, **unlock, signal, broadcast, wait, thread yield**, and thread **join**
- Implemented intelligent **memory management** within the library to proactively eliminate potential leaks, ensuring the system's **resilience** and **reliability**
- Enforced comprehensive unit tests to assure the library's soundness, **identify** and **rectify errors**, and guarantee optimal **performance** in diverse scenarios

ask485?: Search Engine | Python, React.js, Hadoop, Flask, Multithreading, APIs
- Built a scalable search engine with a **React.js** user interface that returns search results similar to Google or Bing
- Created a segmented inverted index of web pages using a **MapReduce** pipeline through **Hadoop** streaming
- Employed **Flask** Python framework to develop **REST APIs** and route requests with backend index and search servers

AFK DJ - DevPost | Python, Computer Vision, Machine Learning, APIs
- Applied visual data from camera using Python's OpenCV library and landmarked body movements with Mediapipe to develop a **neural network** to output either "dancing" or "not dancing" with **90%** success rate
- Established a **10 second buffer** from when the model indicates "not dancing," ensuring audience dislikes the song
- Pulled user's playlist from **Spotify API** to pause and play music based on the "liveliness" of their dancing

INTERESTS

- Journaling || Self-learning Telugu || Basketball and River tubing enthusiast || Avid finance podcast explorer || Tech Talks