

Aman Umrao

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Education

Shri Shankaracharya Technical Campus, Bhilai

August 2021 – June 2025

Bachelor of Technology in Information Technology

CGPA 8.05

Relevant Coursework

- Data Structures
- Algorithms Analysis
- Operating System
- Mathematics for CSE
- Artificial Intelligence
- Database Management
- Computer Network
- OOPs

Technical Skills

Languages: C, C++, Python, JavaScript, SQL, JAVA, Bash

Utilities: VS Code, Unix/Linux, Vim, Github, WordPress, Docker, Sublime Text, Postman, Yarn, Jupyter Notebook

Technologies/Frameworks: ReactJS, ExpressJS, NodeJS, NextJS, MongoDB, Firebase, Selenium, shell scripting, Git

Experience

Languify

July 2024 – September 2024

Software Engineer Intern

Remote

- Contributed to a live language modeling project, driving a **10% reduction** in **processing time** and enhancing speech-to-text accuracy by implementing Hidden Markov Models (HMMs) in the ASR system.
- Utilized TensorFlow and PyTorch for model training and evaluation, ensuring robustness in various acoustic environments and achieving a **15% reduction** in **error rates**.
- Created scripts to preprocess audio data and aggregate transcriptions, increasing **data processing efficiency** by **1.5x**.

Projects

DDOS Attack Detection and Mitigation using ML | Python, Mininet, Ryu Controller, Linux  [GitHub](#) April 2024

- Implemented Random Forest classifier **Machine Learning** algorithm to classify attacks and legitimate traffic with **97% accuracy** and detected DDoS attacks within **2 seconds** using machine learning. Reducing **network downtime**.
- Configured the network and wrote custom topology bash and **python scripts** to enable communication between hosts.
- Used Debian OS to run program on **Linux** environment for **testing** the system in SDN (**Software Defined Network**).

Live Docs | NextJS, TypeScript, Tailwind CSS, NodeJS, Liveblocks, Clerk-Auth

 [Live](#) -  [GitHub](#) March 2023

- Engineered a real-time collaborative document editing platform. Styled the UI with Tailwind CSS and ShadCN, enhancing user interactions with instant updates and **low-latency synchronization**.
- Employed Lexical Editor by Meta for rich text editing capabilities, achieving a **50% reduction** in update delays.
- Deployed Node.js as the backend and integrated Clerk-Auth for secure real-time **authentication**, resulting in **improvements** in document loading and saves time.

Share Bits Wirelessly | HTML, CSS, JavaScript, NodeJS, Python

 [Live](#) -  [GitHub](#) January 2023

- Built a wireless file-sharing app using Base64 encoding to convert files (upto 2KB) into QR codes for sharing.
- Configured file reconstruction via Blob handling and Base64 decoding, optimizing QR code generation with error correction techniques to ensure accurate file retrieval and reliable offline transfers.
- Applied a fully client-side solution to ensure privacy and security by eliminating server-side data processing.

Achievements

- **ACM ICPC Asia West Regionalist 2023** - 1st in College & University, Rank 201
- CodeChef **3 Star** Max. Rating [1645]
- Codeforces pupil Max. Rating [1215]
- GeekForGeeks Institute **Rank 1**
- HackerRank **6 star** in problem solving
- **AIR 91** | **Global Rank 101/32181** in Starters 129
- Qualified **Meta HackerCup** Round 2 out of 21k+
- 1000+ **problems solved** on various coding platforms [[Leetcode](#), [CodeChef](#), [Codeforces](#), [GFG](#), [HackerRank](#)]

Leadership & Extracurricular

- **Co-organized** "Codecon Season 1 & 2" DSA coding competition at SSTC Bhilai, and contributed as a **problem setter** and tester for events with over 50+ participants.
- **Mentored** 30+ students as part of Girl Script Summer of Code Extended 24 (**GSSOC'24**), guiding them through **Open-Source contributions** for two projects by reviewing and helping them with pull requests.
- Actively contributing to range of open-source projects on GitHub, collaborating with global developer communities to address issues, propose or discuss solutions, and raising PRs, driving improvements in projects.