Aditya Joshi

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**TECHNICAL SKILLS:** Golang | Apache Kafka | Java | C | Redis | PostgreSQL | MySQL | MongoDB | Docker | Kubernetes

# EDUCATION

## Bachelor of Technology in Computer Science

*VIT Bhopal University, Sehore | CGPA: 8.37* ***September 2022 – Present***

## Higher Secondary Education (12th)

*UCSS, Kaladhungi(Nainital) | Percentage: 88.4%* ***March 2022***

## Secondary Education (10th)

*UCSS, Kaladhungi(Nainital) | Percentage: 94%* ***March 2020***

# PROFESSIONAL EXPERIENCE

## Founder and President

### BashCraft Club, VIT Bhopal | December 2024 – Present

* Built a 50-member team and organized events with 600+ participants.
* Hosted a podcast with a Senior Staff Engineer at Google on system design, LLMs, and real-world engineering, with 100+ participants.
* Organized a finance webinar with Zerodha on investment strategies and a fintech hackathon with 280+ participants.
* Served as a board member of BashCraft, created 5 teams, and was elected president twice.

## Tech Lead

### Software Development Club | September 2024 - November 2024

* Served as the Tech Lead at SDC, leading technical initiatives and mentoring club members.
* Collaborated with Sheriyans Coding School to organize a major event focused on frontend engineering, attracting over 150 participants.

# PROJECTS

## TCP/IP Stack [[Link](https://github.com/adityjoshi/tcp-ip-stack)]

* Developed a TCP/IP stack in C to simulate a multi-node network topology with interconnected routers and switches.
* Implemented core networking protocols: ARP (L2), MAC learning, IP routing (L3), and VLAN support.
* Designed a custom glthread, a doubly linked list where data is directly embedded into the linked list structure for improved performance.
* Optimized packet delivery through efficient switching and routing mechanisms.

*Technologies: C, TCP/IP, Network Protocols (ARP/IP/VLAN)*

## Swaasthya: A Centralised Hospital Management System [[Link](https://github.com/adityjoshi/aavinya)]

* Engineered a hospital management system with region-based database sharding for horizontal scalability and optimized data management and containerization using Docker and Kubernetes.
* Implemented 2FA authentication for secure access by hospital staff and admins.
* Integrated Redis for IP rate limiting and smart queue management, ensuring system stability and efficient patient appointment handling.
* Utilized Kafka for batch processing to handle large volumes of data and prevent DB transaction overload, enabling efficient data routing and real-time updates.

*Technologies: Go, Kafka, Redis, PostgreSQL, Docker, Kubernetes*

# HACKATHON EXPERIENCE

## Smart India Hackathon 2024

* Led a team to win the internal round at VIT Bhopal University, out of 400 teams.

## International Innovation Challenge 2024

* Led a team to the finals out of 600+ applicants, designing the system architecture and backend.

# CO-CURRICULARS AND ACHIEVEMENTS

## NPTEL Cloud Computing – Top 1%

* Achieved a score of 88, ranking among the top 1% of 24,000 students in the NPTEL Cloud Computing certification.

**AWS Cloud Club Community Partner**

* Organized events on LLMs and AI in collaboration with AWS engineers from the USA, hosting sessions with 200+ participants.

## Peer & Junior Mentorship

* Taught operating systems, computer networks, system design, and Java to peers and juniors, leading to a 25% improvement in student’s academic performance.

## Newsletter Launch

* Launched a computer science-focused newsletter on LinkedIn and Substack, reaching 300+ readers and providing valuable insights into the field.