

# SANKALP ACHARYA

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## EDUCATION

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### Indian Institute of Technology, Bhilai

B.Tech. in Computer Science and Engineering; **GPA: 8.74/10**

Durg, India

Nov 2020 – May 2024

**Relevant Coursework:** Data Structures, Algorithms, Operating Systems, Computer Networks, Database Management Systems, Distributed Systems, Cryptography, Network Science.

## SKILLSET

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**Languages/Databases:** HTML, CSS, Typescript, C, C++, Go, Bash, SQL, Redis

**Frameworks/Libraries:** Tailwind, React, Next.js, NetworkX, NetworkKit, Gin, Go-Fiber, Zap, Viper

**Tools:** Docker, Git, Kubernetes, AWS, RabbitMQ, Swagger, Postman, Prometheus, Grafana, WireShark, LaTeX

## WORK EXPERIENCE

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### [Zocket AI](#)

Backend Developer Intern

Bengaluru, India (Remote)

Mar 2023 – Jun 2023

- Designed and implemented a **microservices-based** application from scratch using **Go**. Deployed services on **AWS Cloud** using **EC2** instances, **CloudWatch**, **EKS**, **Secrets Manager**, etc.
- Migrated** and **refactored** the existing APIs written in **NodeJS** in a monolithic architecture to a microservices-based architecture in **Go**; using frameworks like **Gin**, **Zap**, **Viper**, etc.
- Engaged in collaborative meetings** with cross-functional teams and project coordinators, actively seeking guidance, addressing queries, and collectively brainstorming strategies to achieve a **low latency application**.
- Reduced **latency** of application by **78%** and improved **test coverage** by **42%**.

**Technologies Used:** Go | AWS | REST-APIs | Docker | Kubernetes | GitLab | Postman | Swagger

## PROJECTS

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### URL Shortener [Ongoing] | [GitHub](#)

- Designed a URL Shortener in **Go** using **Go-Fiber** & **Redis**. Implemented a **rate-limiter** on *client IPs* using a **fixed-window counter** algorithm.
- Deployed the application locally using **Docker**. Used **Postman**, **Apache JMeter** for **API Load Testing**.
- Exposed application, database & host metrics to a **Prometheus** instance. Later used Prometheus as a data source for **Grafana** to *query* & *monitor* these metrics & send alerts.

### Synthetic Social Network Generator | [GitHub](#)

- Synthetic social networks are used to **test & validate** network analysis methods and **generate datasets** for training models.
- Used **Stochastic Block Model (SBM)** as the initial network & applied algorithms for **triadic closure** & **preferential attachment** to improve the **clustering coefficient** Implemented using **NetworkX** & **Python**.
- Managed to perform **62%** better on average when compared to existing network generators.

## ACHIEVEMENTS & PORS

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**ACM-ICPC Regionalist 2022:** Participated in the *regionals* round of ICPC-2022 held in Kanpur. Ranked 89<sup>th</sup> in the *preliminary round*.

**Google HashCode 2022:** Ranked AIR 549<sup>th</sup> in Google HashCode 2022 among 10,000 candidates with a score of 2024585.

**Class Representative:** Representative for the 2024 batch of IIT Bhilai, responsible for managing academic activities.

**Student Mentor:** Mentored incoming students of the 2025 batch of IIT Bhilai, under the *Student Mentorship Program*.

## INTERESTS

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Rust, Network/System Programming, System Design, Low Latency Development & exploring cloud-native projects