DAKSH KUMAR

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Education

Indian Institute of Information Technology - Sri City **Apr 2023 – Present**
Bachelor of Technology in Computer Science and Engineering *Sri City, Andhra Pradesh*
CGPA: 8.98/10.0

Relevant Coursework

- Data Structures
- Cloud Computing
- Database Management
- Artificial Intelligence
- Operating System
- Computer Networks
- Computer Architecture
- OOP's
- Machine Learning
- Computer Vision
- HPC

Experience

SmallGroup **Aug 2025 – Present**
Full-Stack Engineering Intern *Remote*

- Built a full-stack stock scoring platform for U.S. equities using **Next.js** and **FastAPI**, enabling users to evaluate and compare stocks based on multiple financial and performance metrics.
- Designed and implemented REST APIs to compute and serve stock scores, reducing client-side computation and improving page load times by **30%**.
- Developed a self-deployment and environment management system to deploy and manage **dev** and **prod** environments across multiple services on **GCP**, improving deployment reliability and repeatability.
- Automated build, deployment, and service orchestration workflows, reducing manual deployment effort by **60%** and minimizing configuration drift between environments.
- Collaborated with engineers to standardize deployment practices across projects, contributing to faster iteration cycles and more stable production releases.

Enigma Club **Oct 2023 – Present**
Co-Lead *College*

- Led and conducted Capture The Flag (CTF) sessions, helping participants develop skills in reverse engineering, cryptography, web exploitation, and binary exploitation.
- Developed a RAM injection tool for Linux, exploring low-level memory manipulation, process injection techniques, and system security vulnerabilities.
- Explored debugging techniques using GDB, memory forensics, and Linux system calls to enhance troubleshooting and system analysis.

Projects

Modern Cloud-Native Kerberos | *Python, Flask, WebSockets, React, Docker, PKINIT, Cryptography* **Github**

- Designed and implemented a **passwordless Kerberos authentication system** using PKINIT and X.509 certificates, eliminating password-based attacks and reducing credential compromise risk by **100%**.
- Built a **high-availability Primary–Replica KDC architecture** with automated database synchronization and failover, eliminating the single point of failure and achieving **zero-downtime authentication**.
- Modernized Kerberos into a **cloud-native microservice architecture** using Docker, REST APIs, and a React UI, reducing manual provisioning effort by **60%** and enabling secure multi-device onboarding.

Rippl | *Nextjs, PostgreSql, Authjs, Prisma, Cloudinary* **Github**

- Developed a **full-stack social media platform** using **Next.js**, leveraging **server-side rendering** to achieve a **50% faster initial page load** for dynamic content like user feeds and posts, significantly improving **user engagement and SEO**.
- Architected a **scalable backend** with **Prisma and PostgreSQL**, designing a **complex relational schema** to efficiently model users, posts, comments, likes, and follower relationships, accelerating **API response times by 35%**.
- Implemented a **secure authentication system** using **Auth.js** for robust user and session management, ensuring **data integrity** and optimizing **interactive features** within a **modern Next.js architecture**.

RAM Injection Project | *C, ptrace, GDB, Linux* **Github**

- Developed a RAM injection tool on Linux, allowing manipulation of running processes.
- Explored low-level memory manipulation techniques using C and Linux system calls
- Gained expertise in process injection, memory forensics, and debugging.

Technical Skills

Languages: C/C++, Java, GO, JavaScript, TypeScript, Python, HTML/CSS, SQL, BashScript
Technologies: Node.js, EJS, Next, React, Redux, Hono.js, Prisma, REST, FastAPI, Turborepo, Pub/Sub
Databases: MongoDB, MySQL, PostgreSQL, SQLite, Redis
Cloud & DevOps: AWS, GCP, Docker, Cloudflare Worker, NGINX, CI/CD
Developer Tools: Git, Vim/Neovim, GDB, Wireshark, Postman, Linux System Calls