Harikrishnan Gopal

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Profile Summary

I am a B.Tech Computer Engineering student specializing in software engineering, with experience across projects, internships, and hackathons, where I have developed and optimized robust, scalable applications. I am proficient with cloud platforms and modern web development stacks, enabling me to build and deploy full-stack, end-to-end software solutions.

Education

K J Somaiya School of Engineering *2022 – 2026*
Bachelor of Technology in Computer Engineering
○ CGPA: 9.26/10

Experience

Summer Intern *Mumbai*
CDSL - Central Depository Services (India) Limited *May 2025 – July 2025*

○ Designed and deployed an Azure-based microservices architecture to process investor grievance and help-desk data, standardizing 40+ input fields using Python and SQL for seamless integration with downstream services

○ Engineered and integrated machine learning APIs using fine-tuned BERT, RoBERTa, and Sentence-Transformer models for automated classification and escalation risk

○ Developed a modular risk scoring system by combining complaint trends with turnaround KPIs; built an interactive Matplotlib dashboard to support early-risk detection

○ Engaged with cross-functional teams (Risk, Grievance Redressal, Back Office) to gather requirements, deploy solutions, and iterate on system functionality, enhancing real-world software delivery experience

Software Engineering Intern *Mumbai*
Software Development Centre (KJSCE-SDC) *May 2024 – Dec 2024*

○ Developed two MERN stack web applications to streamline faculty management: one for faculty appointments (examiner assignments, paper setting, evaluations) and another for faculty reimbursements (submission/approval workflows)

○ Focused on seamless integration, high performance, and a responsive, user-friendly experience to optimize operational efficiency

○ Implemented secure authentication systems, automated workflow notifications, and real-time data synchronization to reduce administrative overhead

Projects

FinCredible *GitHub* ↗

○ Built a full-stack finance platform (MERN) integrating real-time market data and 10K+ news articles into personalized user feeds using REST APIs

○ Integrated a FastAPI microservice delivering ML-based stock recommendations (Gradient Boosting & LSTM) via secure REST APIs

○ Designed interactive dashboards with React.js and Plotly to visualize performance metrics, risks, and trends

UniqScan *GitHub* ↗

○ Built a MERN stack web application including assignment management, student submissions, and educator dashboards. Integrated NLTK, OCR, and a fine-tuned RoBERTa model to analyze submissions, flag LLM-generated or plagiarized content and store structured results in a MySQL database

○ Designed modular REST APIs for content ingestion and result reporting; implemented Matplotlib-based visual reports to support real-time educator review and academic integrity enforcement

CodeSync *GitHub* ↗

- ○ A real-time collaborative coding platform enabling simultaneous multi-user code editing and execution using Firestore and Dockerized backend
- ○ Integrated a VS Code-style editor with live code sync, session sharing, and remote Python code execution via Flask API in an isolated environment
- ○ Implemented a CI/CD pipeline using GitHub and GCP Cloud Build, enabling automated deployments and version-controlled infrastructure updates

Portfolio Website *Website* ↗ — *GitHub* ↗

- ○ Built a fully responsive personal portfolio using Next.js, Tailwind CSS, and Framer Motion, featuring sections for projects, experience, and contact with smooth UI transitions
- ○ Deployed on Google App Engine with a custom domain and structured component-based design for scalability and maintainability
- ○ Configured CI/CD pipeline using GitHub and Google Cloud Build with a cloudbuild.yaml setup for automated builds and zero-downtime deployments

SafeView *GitHub* ↗

- ○ Developed a real-time, privacy-focused Chrome extension for NSFW content moderation using TensorFlow.js and a fine-tuned MobileNetV3-Small model
- ○ Implemented modular components for in-browser image classification, dynamic content obfuscation, and user-configurable filtering settings
- ○ Designed an optimized frame-processing pipeline using a queued buffer system to handle 10,000+ frames from 60fps videos (1-min duration), ensuring smooth real-time moderation without browser lag

Technical Skills

Programming Languages: Python, JavaScript, Java, C, SQL

Web Development: MERN Stack (MongoDB, Express.js, React.js, Node.js), Next.js, Flask, FastAPI, HTML, CSS, Tailwind CSS

Cloud & DevOps: Microsoft Azure, Google Cloud Platform, AWS, Docker, CI/CD, Git

Databases: MySQL, MongoDB, PostgreSQL, Firestore

Machine Learning & AI: TensorFlow, PyTorch, Scikit-learn, Keras, Hugging Face Transformers, NLTK, OpenCV, BERT, RoBERTa, LSTM

Data Analysis & Visualization: Pandas, NumPy, Matplotlib, Plotly, Seaborn

Certifications

Google Project Management Professional Certificate *Google* ↗

Architecting Solutions on AWS *AWS* ↗

Database Structures and Management with MySQL *Meta* ↗

Python for Data Science, AI & Development *IBM* ↗

Key Achievements

Datathon (Data Science Hackathon) - Finalist *GitHub* ↗

- ○ Developed a machine learning-based system to predict customer churn in subscription-based services, leveraging predictive analytics to identify high-risk customers and recommend targeted retention strategies

IIT Kharagpur Data Science Hackathon - Semi Finalist *GitHub* ↗

- ○ Built an AI pipeline that evaluates manuscript "publishability" and suggests ideal conferences by combining DocBERT embeddings with an XML-CNN multi-label classifier
- ○ Engineered a real-time streaming workflow to ingest new papers, perform on-the-fly scoring, and deliver recommendations within seconds