

Prajwal Venugopal

+1 812-322-4878 | pvenugop@iu.edu | [Linkedin](#) | [Github](#) | [Portfolio](#)

EDUCATION

Indiana University Bloomington | MS, Computer Science | GPA: **3.95/4.0** | Bloomington, Indiana | Dec 2025
Coursework: Applied Algorithms, Big Data Applications, Software Engineering

Visvesvaraya Technological University | BE, Computer Science | GPA: **8.95/10.0** | Bengaluru, India | May 2024
Coursework: Data Structures, Object Oriented Programming, Cloud Computing

WORK EXPERIENCE

Research Assistant | Bloomington, Indiana, USA
Indiana University Bloomington | Feb 2025 – Present

- Assisted in performance benchmarking of graph processing engines, including Neo4j, TigerGraph, PuppyGraph, and GraphFrames, across 5 large-scale real-world datasets by deploying a distributed cluster on Jetstream2 using Hadoop and HDFS to support scalable parallel processing of large graph datasets.
- Formulated and executed 20+ complex graph queries per dataset (e.g., multi-hop traversals, pattern matching, PageRank, shortest path) to evaluate execution time, scalability, and system efficiency.
- Compared engine performance metrics to evaluate suitability for fraud detection, recommendations, and knowledge graphs.

Software Engineer Intern | Bengaluru, India
Celstream Technologies | Feb 2024 – Jul 2024

- Revamped the Buckman web app using React, reducing page load times by 35% and enhancing responsiveness for 1,000+ daily users.
- Coordinated with 5+ QA engineers and 2 product teams to automate testing, reducing regression issues by 30% and detecting 5+ performance bottlenecks.
- Resolved 10+ critical bugs in live projects, decreasing error rates by 20% and improving user satisfaction scores.

DevOps Engineer Intern | Bengaluru, India
Verana Networks | Aug 2023 – Oct 2023

- Optimized CI/CD pipelines for CU services using GitHub Actions and shell scripting, reducing deployment time by 40%.
- Developed automated test execution and monitoring systems, increasing deployment stability and uptime.
- Executed integration and contract tests with PyTest, improving microservices validation accuracy by 30%.

TECHNICAL SKILLS

Languages: Python, Java, C, JavaScript, HTML, CSS, SQL, NoSQL, Gremlin, Cypher

AI/ML Tools: TensorFlow, PyTorch, Scikit-learn, OpenCV, Pandas, NumPy

Big Data & Cloud: Spark, Hadoop, HDFS, Delta Lake, AWS, Azure; **Databases:** PostgreSQL, MySQL, Neo4j

DevOps & Web: Docker, GitHub Actions, CI/CD, React.js, Node.js, Express.js, Flask, Git, Tailwind CSS

PROJECTS

Study Mate - Learning Management System | *React.js, Next.js, Node.js, Express.js, PostgreSQL, Cloudinary*

URL: learning-management-system-studymate.vercel.app

- Built a full-stack, cloud-native learning-management platform enabling instructors to create courses, manage enrollment, share resources, and collaborate with students via real-time chat and role-based dashboards — all designed from the end-user's perspective in an agile team setting.
- Implemented React.js + Next.js for SSR/UI, Node.js/Express.js APIs with Socket.io for live messaging, PostgreSQL for relational data, & Cloudinary for media storage; integrated JWT-based auth & deployed via Render and Vercel with CI/CD.

MuteSign: Deep Learning Sign Language Recognition | *TensorFlow/Keras, OpenCV, Python, Scikit-learn, Pandas*

DOI: [10.1109/IC-RVITM60032.2023.10435143](https://doi.org/10.1109/IC-RVITM60032.2023.10435143)

- Designed and implemented a Sign Language Recognition System using CNNs and RNNs, achieving 96% accuracy, to bridge the communication gap for individuals with hearing and speech impairments.
- Orchestrated a multi-stage pipeline for Indian Sign Language recognition, including data acquisition from 1,000 videos, pre-processing, feature extraction, and classification, achieving high-accuracy gesture recognition.

Noble Cure - Health Care Platform | *Regression Algorithm, Flask, HTML/CSS, PostgreSQL*

- Created a healthcare platform that analyzes user symptoms and applies a regression-based algorithm to recommend doctor-prescribed over-the-counter medications, processing 200+ prescriptions daily.
- Refined a user-friendly interface with Flask and HTML/CSS, integrating PostgreSQL for efficient data management, which improved data accuracy by 70% and increased user engagement by 20%.

CERTIFICATIONS & AWARDS

- Obtained **Microsoft Certified: Azure AI Fundamentals and Azure Fundamentals**.
- Earned **AWS Academy Graduate** status in the **AWS Academy Cloud Foundations** program.
- Achieved **1st place** in the highly competitive **Meraki 2023 International Business Plan Competition**.