

Prajwal Venugopal

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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 setup on Jetstream2 with Hadoop and HDFS for centralized storage and access.
- 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.
- Analyzed and compared performance metrics across engines to support use cases in fraud detection, recommendation systems, 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, 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, Node JS, Express JS, Flask, Git, Tailwind CSS

PROJECTS

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%.

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

Automated Water Meter Reader | *Arduino Uno, Python, Google Cloud, Google Vision, Twilio API*

- Built and validated a real-time water meter reader system to prevent miscalculations and fraud in India's manual water meter readings. Integrated ESP32 modules with cloud infrastructure to ensure accurate and automated data collection, eliminating human errors.
- Implemented real-time alerts using the Twilio API, enabling instant notifications for anomalies or irregular usage patterns, thereby improving billing accuracy and preventing fraudulent readings.

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**.