

Swetna Annette Tribhuvan

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Education

•Rochester Institute of Technology

Master's in Computer Science

August 2021-December 2024

Rochester, NY

•University of Mumbai

Bachelor's in Information Technology

June 2017- June 2021

Mumbai, India

Professional & Internship Experience

•Information & Technological Services

Software Engineer , Intern

May 2023 - Decemeber 2024

Rochester, NY

- Engineered a **Grafana** dashboard with a **Kotlin** backend, improving efficiency by 93% and enabling real-time visualization for 78% of RIT classroom data.
- Achieved 96% accuracy in energy calculations using **PostgreSQL** and **Prometheus** for precise monitoring.
- Managed and improved websites with **Laravel**, **Vue.js**, and **Drupal (9.0 and 10.0)**, enhancing user experience and system reliability. Enhanced code in **JavaScript** and **PHP** to ensure clean, concise, and maintainable code for one of the websites.
- Led **Scrum** activities, fostering continuous improvement and team collaboration.

•Covid India National Taskforce

Web developer, Intern

May 2021 - July 2021

Mumbai, India

- Developed a **Django-based web interface**, improving data accessibility by 22% during COVID-19.
- Optimized **MySQL** queries for 11% better performance and integrated **APIs**, boosting functionality by 32%.
- Actively contributed to **Agile** processes, participating in **sprints**, stand-ups, and **retrospectives** for improved team efficiency.

Projects

AI-Based Traffic Flow Optimization Using Cloud Computing and Google Maps API

May 2024 – December 2024

<https://github.com/Swetna/TrafficFlowOptimization>

- Designed **AI-driven** models leveraging **Google Maps API** and **cloud computing** to optimize traffic signals, reducing congestion by up to 25% in **SUMO** simulations running through **Python** based code.
- Processed and analyzed large-scale traffic datasets (over 1 million data points) via **AWS** cloud platforms, increasing simulation **scalability** by 40%.
- Enhanced system efficiency by 30% with cloud-based AI algorithms for **real-time** adaptive traffic control.

Luxurious Stay: MERN Project with Enhanced UX & Security

July 2023 – August 2023

<https://github.com/Swetna/HotelBookingApp>

- Created a **MERN** hotel booking platform, boosting **user engagement** by 25% through an enhanced and **user-friendly interface**.
- Enhanced **platform security** and efficiency, **reducing vulnerabilities** by 30%, improving response time by 40%, and elevating platform integration by 35% for seamless **front-end** and **back-end** communication.

Discerning and Categorizing Poison Ivy: An Elegant Exploration

September 2022 – December 2022

<https://github.com/Swetna/PoisonIvyDetection>

- Developed an analysis system using four advanced methods to distinguish poison ivy, significantly enhancing outdoor safety and prevention efforts.
- Curated and labeled a dataset of 1,000+ images, achieving 89% accuracy in plant identification, and improved model accuracy by 15% using **data augmentation** and **transfer learning techniques**.

For more projects, visit portfolio: <https://swetna.github.io/SwetnaTribhuvanPortfolio/>

Technical Skills

- **Languages:** Java, Python, JavaScript, C++, PHP, C#, XML, C, Matlab, R programming, HTML, CSS
- **Frameworks:** Grafana, Kubernetes, Django, Spring Boot, React, NodeJS, .NET, Drupal, Flask, RESTful API, phpMyAdmin, Kotlin, Laravel, Vue.js, JIRA
- **Cloud/Database:** DBMS, PostgreSQL, MongoDB, SQL, Relational Database, NoSQL, MySQL, Redis, SimpleDB, DynamoDB, Prometheus, Cassandra, SAAS
- **ML & DevOps Tools:** Scikit Learn, TensorFlow, NumPy, Pandas, Matplotlib, Amazon Web Services (AWS), Google Cloud, Docker, Git
- **Concepts/Interests:** Object-Oriented Programming (OOP), Algorithms & Data Structures, Application Development, Debugging, Documentation, Linux, Maven Tools & Gradle Projects, Backend & Frontend Development, Android Development, Agile, Scrum, Troubleshooting, Version Control Systems, Code Management, Code Reviews, Maintainable Code, Scrum Development, Testing Software, Test Suites, Unit Testing
- **Soft Skills:** Efficient and Swift in Learning, Communication, Collaboration, Team Management, Leadership, Efficient Time Organization, Teamwork

Certifications

• **Drupal Essential Training** LinkedIn learning

June 2024

• **AWS Certified Cloud Practitioner** - Amazon Web Services

April 2024

• **Introduction to Generative AI** - Google Cloud

July 2023