PRATHIK RANGANATHA GOWDA

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EDUCATION

The George Washington University, School of Engineering & Applied Science **Washington, DC**
Master of Science in Computer Science (GPA – 3.9/4) **Graduating: May 2025**

- Relevant Courses - Design & Analysis of Algorithms, Advanced Software Paradigms, Machine Learning, Data Mining, Component Based Enterprise Software, Cloud Computing, Object Oriented Design, Big Data & Analytics.

Visvesvaraya Technological University, Sapthagiri College of Engineering **Bengaluru, India**
Bachelor of Engineering in Electronics and Communication Engineering (CGPA - 8.63/10) **June 2023**

- Relevant Courses - Data Structures & Algorithms, Introduction to AI, Calculus & Linear Algebra, Computer Architecture, Computer Networks, ML with Python, Python Application Programming.

TECHNICAL SKILLS

- **Programming Languages**: Python, SQL, Java, JavaScript, R, HTML, CSS.
- **Database Systems**: MySQL, MongoDB, PostgreSQL.
- **Frameworks**: React.js, Next.js, Node.js, Express.js, Tailwind CSS, Pandas, NumPy, Matplotlib, Keras, Seaborn.
- **Tools**: Git, GitHub, Visual Studio Code, Jupyter, Jira, Bitbucket, Terraform, Jenkins, Oracle Apex, Splunk, New Relic, Postman APIs, MongoDB Atlas.
- **Cloud Platforms and Services**: Microsoft Azure (API Management, Redis Cache, Entra ID, Log Analytics, Automation Accounts, Application Insights), AWS (Cloud9 IDE, IAM, S3, EC2, Lambda, Cloud Watch, RDS, VPC, Cognito).

WORK EXPERIENCE

Staples Inc, API Management Intern **Framingham, MA**
Vulcan team **May 2024 – August 2024**

- Architected Azure Cloud Services to design, deploy, and secure APIs/microservices, ensuring compliance and performance.
- Optimized Azure Redis costs 30% by scaling tiers and automating failover for 99.9% uptime.
- Migrated 50+ APIs to HTTPS on Azure, validating security via Postman.
- Upgraded 110+ APIs from STv1 to STv2 with zero downtime via cross-team coordination and testing.
- Automated deployments using Terraform, Jenkins CI/CD, and Bitbucket version control, cutting deployment time.
- Collaborated in SAFe Agile sprints using Jira, delivering tasks and participating in daily stand-ups.

Bosch Limited, Software Engineer Intern **Bengaluru, India**
ParkZeus team **February 2023 - May 2023**

- Designed UIs for a valet parking IoT app and ParkZeus portal using React.js, improving admin workflows and UX.
- Built Oracle APEX databases to manage IoT device data with optimized indexing for faster queries.
- Developed REST APIs (Node.js) to connect React frontend with Oracle APEX, enabling CRUD operations.
- Prototyped ParkZeus dashboard features with UX teams to simplify user onboarding.

TECHNICAL PROJECTS AND RESEARCH PUBLICATIONS

Kanban Task Board, Project Management Application **January 2025 – Present**

- Developing a full-stack project management app with Next.js (frontend) and Node.js/Express.js (backend). Implementing role-based access control for Board Owners and Members, deploying using AWS EC2, Lambda, S3, and RDS.
- Designing a responsive UI using Tailwind CSS, Material UI Data Grid, and Recharts, enhancing UX with dynamic analytics.
- Building REST APIs with Prisma ORM, PostgreSQL, and integrating Redux Toolkit + RTK Query for state management and API efficiency.
- Integrating AWS Cognito for authentication and optimizing server-side rendering (SSR) to improve app scalability.

WeCureIt, Clinic Management System Application **August 2024 - November 2024**

- Collaborated in an Agile team, rotating as Scrum Master to lead sprints and enhance workflow. Designed a clinic management system with role-based access for admins, doctors, and patients using a client-server architecture.
- Developed frontend with React and backend with Node.js and Express.js, using Tailwind CSS for styling and MongoDB for database. Created UI designs in Figma for an improved user experience.
- Designed and implemented a scheduling algorithm to optimize appointment bookings, improving efficiency and user convenience.

Hand gesture recognition and voice conversion for deaf and aphonic people. **October 2022 – May 2023**
Author, Gradiva Review Journal

- Developed a bi-directional model using the MediaPipe algorithm to recognize hand signs and convert them to text and speech format, and vice versa. Integrated PyTorch for deep learning, gTTS for text-to-speech, and SpeechRecognition for voice input processing.
- Built a solution to bridge the communication gap between normal individuals and people with special needs, utilizing Pygame for interactive UI elements and OpenCV for real-time hand tracking.
- Conducted research and authored a paper published in Gradiva Review Journal, detailing methodologies, Python libraries used (PyTorch, gTTS, SpeechRecognition, Pygame, OpenCV, MediaPipe), and the results obtained from the project.