

# Swathi Meghana Kolar Rajeev

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[LinkedIn](#) • [Portfolio](#) • [GitHub](#)

## SUMMARY

Dynamic Software Engineer and AI/ML Enthusiast with hands-on experience developing scalable web, mobile, and deep learning solutions — driven to bridge engineering precision with intelligent systems.

## EDUCATION

### UNIVERSITY OF SOUTHERN CALIFORNIA

MS in Computer Science (3.67/4.0)

Los Angeles

Jan 2024 – Dec 2025

- Coursework - Analysis of Algorithms, Web Technologies, Database Systems, Information Retrieval and Search Engines, Machine

Learning for Data Science, Applied Cryptography

### VIDYAVARDHAKA COLLEGE OF ENGINEERING

Mysuru, India

BE in Computer Science and Engineering (9.30/10.0)

2019 – 2023

- Coursework - Software Engineering, Operating Systems, Object Oriented Concepts, Computer Networks and Security, Big Data Analytics

## WORK EXPERIENCE

### University of Southern California – Graduate Research Assistant (Part time/ On-campus)

Los Angeles, CA

May 2024 - Present

- Conducting deep learning research under Prof. Anita Penkova on diabetic retinopathy detection.
- Achieved 96% accuracy on the OCTA dataset in blood vessel segmentation using U-Net.
- Built and trained ResNet50 model for detection and classification of stages of DR.

Tech stack: Python, PyTorch, Jupyter, Tensorflow, TensorBoard, Pandas, Numpy, OpenCV, U-Net, ResNet50

### CoachEd – Front-end Web Developer Intern

Bengaluru, India

Sept 2022 – Oct 2022

- Developed a responsive ‘In-Vehicle Infotainment System’ dashboard with Bluetooth, GPS, music, and radio controls.
- Contributed towards the implementation of brightness control and real-time clock display for minimal driver distraction.
- Participated in Agile sprints with product and testing teams, following modular, maintainable code practices.

Tech stack: HTML5, CSS, JavaScript, Git, RWD, Media Queries

## SKILLS

- **Languages:** C, C++, Python, Java, JavaScript, TypeScript, Kotlin
- **Frontend:** HTML5, CSS3, Bootstrap, AngularJS, ReactJS, AJAX, JSON
- **Backend:** Flask, Node.js, Express.js, Spring Boot
- **Mobile Development:** Swift, SwiftUI, Java (Android), Kotlin, Xcode, Android Studio, Figma (UI/UX)
- **Databases Systems:** MySQL, MongoDB, PostgreSQL
- **Operating System:** Windows, MacOS, Linux
- **Cloud and DevOps:** AWS, Google Cloud Platform, Oracle Cloud Infrastructure (OCI), Docker, Kubernetes, CI/CD
- **Tools and Version Control:** Git, Jira, Agile Methodologies
- **Machine Learning and AI:** TensorFlow, PyTorch, OpenCV, Scikit-learn, Keras, Pandas, Numpy, Seaborn/Matplotlib
- **Other tools:** Microsoft Office Suite, Arduino Programming
- **Soft Skills:** Communication, Leadership, Team collaboration, Attention to Detail, Problem Solving

## PROJECTS

- **Secure EHR Audit Logging System** - Apr 2025  
Built a full-stack web app using Flask (Python), Jinja2, HTML5/CSS3, and Bootstrap for role-based access (doctor, auditor, patient) with session management. Implemented cryptographically secure audit logging using RSA digital signatures, SHA-256 hash chaining for tamper detection, and AES-128/CBC with RSA key wrapping for encrypted log storage. Structured modular backend with JSON-based record handling, dynamic routing, and Git-based version control.
- **Weather Forecast Application (Web & iOS Application)** -Aug 2024  
Developed a responsive full-stack weather forecasting system with web and iOS interfaces using the MEAN stack (MongoDB, Express.js, Angular, Node.js) and Swift, Implemented CRUD operations via RESTful API integration and leveraged Tomorrow.io API for real-time weather data retrieval. Implemented, leveraging MongoDB Atlas for efficient data persistence. Designed a responsive web interface using Bootstrap and media queries. Deployed the scalable application on Google Cloud Platform.
- **Sequence Alignment Implementation using Dynamic Programming in a memory - efficient version** -May 2024  
Created a memory-efficient algorithm for sequence alignment using dynamic programming, significantly reducing memory usage while maintaining high accuracy.
- **Developed an Android app - MedTime** for medication reminders using Java in Android Studio, featuring user-friendly notifications for timely alerts. -Jul 2022
- **Designed an IoT- based Automatic Heart Sensing and Alert System** using Arduino Programming in C++ -Jan 2022
- **Built a web-based Criminal record DBMS** for managing criminal records using MySQL, XAMPP, and PHP -Jan 2022

## RESEARCH PAPER PUBLICATIONS

- **Cotton Plant Disease Detection using Deep Learning (ICSISCET 2023)** with an accuracy of 95% using CNN.
- **Detection of Diabetic Retinopathy Using Deep Learning (ICSISCET 2023)**, achieving an accuracy of 97.66% using Inception V3 Model.
- **Detection of Okra Disease Using Deep Learning (IJARCCE 2023)**, achieving an accuracy of 99.78% using U-Net for semantic segmentation and Resnet18 for image classification.

## CERTIFICATIONS, AWARDS & RECOGNITIONS

- Awarded as the ‘Department’s Best Outgoing Student’ at my Undergraduate University- VVCE.
- **AWS Certified Cloud Practitioner** – knowledge of AWS services, security, cloud architecture, billing, and deployment best practices.
- Certified as **OCI AI FOUNDATIONS ASSOCIATE** by Oracle.
- Participated in **Devfolio OnLoad 2.0 Hackathon** and presented an Android Mobile Application – **MediAssist**.
- **IBM Skillsbuild** certification on completion of course on **Data Structures**.
- Underwent **Salesforce MuleSoft Training**. Gained experience in API lifecycle management, system integration, and flow orchestration using MuleSoft AnyPoint Platform.