Gargeya Akhilram Durgempudi (Akhil)

Full Stack Developer | Java | Python | React | Azure Certified

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SUMMARY

Full Stack Developer with a strong foundation in Java, Python, and React.js, Master of Science in Computer Science - Completed May 2025. Proven experience in building scalable applications, integrating ML models, and deploying full-stack systems. Certified Azure DevOps Engineer with hands-on deployment of cloud-native apps and disaster alert platforms. Actively seeking software development or ML roles where I can combine problem-solving and technical execution.

EDUCATION & CERTIFICATIONS

Master of Science in Computer Science from University of Houston-Clear Lake, Houston, TX, May 2025.

Bachelor of Technology in Computer Science Engineering from Koneru Lakshmaiah University, India, Apr 2023.

MS Azure Certifications: Devops Engineer Expert Az-400, Microsoft Developer Associate Az-204.

TECHNICAL SKILLS

Development	Machine Learning, Full Stack Web Development (React, Spring Boot), Web Technologies (HTML, CSS, JavaScript), Agile.
Programming	Java, Python, C.
Software Development Tools	FlutterFlow (UI Development), Firebase, Figma, Microsoft Azure, JIRA, Git, GitHub, VS Code, Eclipse, Google Colab, Tomcat.
Databases & Operating Systems	PostgreSQL, MySQL; Windows, Linux, Putty.

Courses: Artificial Intelligence, Machine Learning, Software Engineering, Object-Oriented Programming (OOP).

EXPERIENCE

ForeSight – Early Warning System: Full Stack Developer (Team Lead).

- Designed and developed an early warning system for weather conditions and disasters, aggregating real-time data from organizations like USGS, NOAA, and OpenWeatherMap. The system provides real-time alerts and a responsive UI for user-specified locations.
- Designed a disaster module that tracks earthquakes, tornadoes, wildfires, and hurricanes using machine learning models (XGBoost, LSTM, SARIMA, Random Forest), collectively achieving up to **93% accuracy** and **weighted F1-scores above 0.85**.
- Used Matplotlib, TensorFlow, and Keras to visualize predictive trends and display interactive graphs across multiple disaster categories.
- Integrated a geolocation-based alert module using Gmail-SMTP to automatically send high-risk warnings based on model confidence thresholds.
- Enabled user-uploaded datasets with automated analysis and downloadable PDF/CSV reports.
- Led a team of 4 developers, managing full-stack delivery, code review, debugging, API integration, PostgreSQL database design, and deployment via GitHub and Render.

Tech Stack: Full Stack Development, React.js (Frontend), Node.js, Python (Data Processing), Machine Learning (Model Development), Matplotlib (Data Visualization), PostgreSQL (Database), REST API (API Integration), Git (Version Control), Gmail-SMTP (Email Notifications), GitHub (Project Frontend deployment), Render (Project Backend deployment), FlutterFlow (Prototyping).

Shopee – Retail Shopping Platform: Full Stack Developer, Java Programmer.

- Developed a full-featured e-commerce application using Java and Spring Boot, implementing user authentication, order management, and secure payment handling.
- Redesigned and simplified the user interface following Agile practices to improve usability and streamline user interaction.
- Built robust backend services with RESTful APIs and integrated MySQL for reliable data management.
- Built a secure login system with JWT and hashed credentials. Implemented validation and error-handling for payments via Stripe API.
- Conducted load testing and improved response times by 25%.

Tech Stack: Java, Spring Boot, MySQL, REST APIs.

DailyCast – Real-Time Weather Monitoring App: Frontend Developer, Python Developer.

- Developed a real-time API-based weather monitoring application using Python, offering data visualization and predictive insights.
- Built a location module to provide precise weather updates & a safety module to recommend precautions to users based on forecasts.
- Enabled hourly forecast views with real-time data sync using OpenWeatherMap. Designed charts with Matplotlib to visualize temperature, wind speed, and humidity.
- Integrated alert module for weather severity warnings via email.

Tech Stack: Python (Data Processing), Flask (Backend), OpenWeather API (Data Source), Matplotlib & Pandas (Visualization), Git.

Travello – Smart Recommendation Platform for Tourism: Frontend Developer.

- Designed and developed a tourism website to recommend budget-friendly travel experiences, using Django to create a user-friendly interface. Implemented a personalized travel suggestion engine, which takes user preferences like budget constraints, etc. into consideration, and can also make activity-based recommendations like hiking, beaches, skiing, etc.
- Implemented real-time location detection and autocomplete using Maps API.
- Created dynamic travel card components for easy filtering by category.
- Applied mobile-first design for responsive experience across devices.

Tech Stack: HTML/CSS & Bootstrap (Frontend), Django (Backend), Google Maps API (Location Services), Git (Version Control).

Lung Cancer Detection – Deep Learning Model: Research Developer, Python Programmer.

- Developed a Python-based deep learning model leveraging Transfer Learning (EfficientNet B2 Architecture), achieving 90.18% detection accuracy. Evaluated the model using validation accuracy, F1 score and confusion matrix, and further enhanced accuracy & processing speed.
- Implemented feature extraction, image segmentation & data augmentation for better classification of non-small cell lung cancer types.
- Published a research paper for IEEE on automated lung cancer detection using CT scan images, eliminating manual radiologist diagnosis.
- Trained on over 10,000 CT-scan slices; improved class balance using data augmentation.
- Used TensorBoard to monitor model performance across epochs.
- Paper accepted by IEEE in 2023, recognized for reducing diagnosis time.

Tech Stack: Python.

Teaching Assistant / Mentorship

- Mentored 40+ students in software engineering related subjects and served as a mentor for Java, Python, and Data Structures & Algorithms. Also helped students improve their programming abilities by assisting them with their academic projects.