ARAVIND ALAGAR RENGHARAJAN

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OBJECTIVE

Passionate **Back-End Developer** with expertise in **C, Java, Python, AWS, SQL,** and **Spring Boot**, along with proficiency in **JavaScript** and **Angular**. Committed to delivering high-quality, scalable solutions, I am currently advancing my education with a Master's degree, set to graduate in May 2025. I am eager to apply my technical skills and innovative thinking to drive the success of a progressive organization. Actively seeking **internship** and **full-time** opportunities where I can contribute and grow within a dynamic team.

ACADEMIC QUALIFICATION

Cleveland State University — Cleveland, Ohio
Master's in Computer Science - 3.8 CGPA   Aug 2023 - May 2025

Velammal College of Engineering and Technology — Madurai, India
Bachelor of Engineering in Electronics and Communication Engineering   Aug 2017 - April 2021

WORK EXPERIENCE

Research Assistant   **Cleveland State University**, August 2023 - Present
Project: Automatic Target Recognition (ATR)

- Researched **machine learning methods** for **target classification** in radar imagery, focusing on **vehicles, aircraft, and ships**, achieving classification accuracy up to **98%**.

- Developed **Convolutional Neural Networks (CNN)**, **VGG**, and **AlexNet**, integrating **SVMs** and **attention mechanisms** to enhance target detection capabilities.

- Implemented **advanced algorithms** including **transfer learning** and **feature extraction** from radar signals for improved detection performance.

FullStack Developer   **Renault Nissan Technology & Business Centre**, October 2021 - August 2023

- Led the development of key modules in the Nissan Connect app, including **advertisement management** and **fuel cost management**, utilizing **Angular**, **TypeScript**, **Java**, and **Spring Boot** to enhance user engagement by 30% and provide real-time cost analytics.

- Created responsive, brand-aligned interfaces and tools with **HTML**, **CSS**, and **JavaScript**, achieving a 25% increase in user interactions and a 40% reduction in page load time.

- Developed **RESTful web services** and optimized **API endpoints** for reliable frontend-backend communication, improving response time by 30% and API uptime by 15%.

- Built an **API performance monitoring dashboard** using **AWS** and **Azure**, reducing incident resolution time by 20% and enhancing observability for production systems.

- Spearheaded backend enhancements, including **microservices optimization**, **caching mechanisms**, and **SQL query optimization**, leading to a 50% reduction in response times and a 35% improvement in application performance.

- Implemented **real-time updates** for advertisements and user-facing data, ensuring relevancy and improving engagement, along with JavaScript-based animations for an interactive user experience.

- Managed automated testing and **continuous integration** for the **Spring Boot** framework, enhancing code quality and reducing deployment errors by 30%.

- Collaborated in cross-functional **Agile** teams to deliver over 50 frontend and production enhancements, reducing customer complaints by 15%.

ACHIEVEMENTS

Best Employee of the Month Award, 2022; Best team of the year award - AMIO Support, 2022

ACADEMIC PROJECTS

Uncrewed Aerial Vehicle for Emergency Medical Support

- Developed a drone system featuring GPS navigation and real-time video streaming to deliver medical supplies rapidly, achieving speeds over 100 km/h and responding effectively to emergencies such as cardiac arrest and trauma.
- Integrated a comprehensive medical supply package including defibrillators, pulse oximeters, and first aid kits, enabling enhanced emergency response capabilities in critical situations.

Automated Detection of COVID-19 using Deep Neural Networks

- Implemented a Deep Learning model utilizing Darknet-19 for the automated detection of COVID-19 from X-ray images, achieving a binary classification accuracy of 98.08
- Designed an end-to-end pipeline that automates feature extraction, enabling rapid diagnosis and expanding applicability to other diseases such as tuberculosis and pneumonia.

PUBLICATIONS

Published a paper, titled "Detection of Covid-19 from X-Ray Images Using Deep Learning" in a journal named International Journal of Recent Advances in Multidisciplinary Topics, July 2021.

TECHNICAL SKILLS

Programming Languages: C, Python, Java, JavaScript, TypeScript, R

Web Development: HTML, CSS, Angular, React, Bootstrap, RxJS, RESTful APIs, JSON

Backend: Spring Boot, SQL, MongoDB, PostgreSQL, Hibernate, Docker, AWS Lambda,Big Query

Machine Learning: TensorFlow, Keras, NumPy, pandas, OpenCV

Data Analysis: R, Excel, Power BI, Tableau, Data Visualization, Statistical Analysis, Data Cleaning, EDA

DevOps: Git, Jenkins, Microsoft Azure, AWS, CI/CD

Process: Agile Methodology, Scrum, SDLC, Microsoft Suite

CERTIFICATIONS

Google Data Analytics Professional Certificate
Issued by Google

AWS Certified Solutions Architects - In Progress
Issued by Amazon Web Services

Google Cybersecurity Professional Certificate
Issued by Google