AISHWARYA RAO KALLEPU

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PROFILE SUMMARY

Computer Science graduate with 1.5+ years of experience in building scalable applications. Proficient in Java, JavaScript, and Python, with strong skills in data structures, system design, and clean code practices. Experienced in data modeling, technical documentation, and cross-functional collaboration. Passionate about solving real-world problems through technology.

EDUCATION

University Of South Florida, Tampa, FL
Master's in Computer Science *Aug'23 - Aug'25*

- Course Work: Data Structure and Algorithm, Smart and Connected Health and AWS Cloud computing.

Kakatiya Institute of Technology and Sciences Warangal, India *Jul'19 - May'23*
Bachelor of Technology in Computer Science

- Course Work: Cloud Computing, Data Structure & Algorithm, DBMS, Data Warehousing, Data Mining. and Data Mining.

EXPERIENCE

Graduate Research Assistant *Aug '24 - Present*
University of South Florida | Tampa | FL

- Preprocessed large-scale image datasets using Java-based pipelines deployed on AWS Lambda and Amazon S3, leveraging image normalization, augmentation, and feature extraction techniques to improve machine learning model performance hosted on Amazon SageMaker.
- Utilized Amazon Textract via Java SDK for PDF data extraction, enhancing model training with a custom dictionary and post-processing logic for improved text recognition accuracy.
- Developed an automated staging pipeline using Java and AWS Step Functions, parsing pathology reports to support future innovations in medical data classification and technical documentation workflows.
- Re-architected a C# .NET-based medical workflow solution into a Java Spring Boot application, integrating AWS SWF (Simple Workflow Service) to automate and orchestrate custom health data pipelines, improving scalability and fault tolerance.

Research Assistant, Bioengineering Department *May '24 - July'24*
Moffitt Cancer Center | Tampa | FL

- Assisted in research on melanoma and breast cancer by conducting cell culturing, fixing, and feeding to observe cellular reactions under various conditions.
- Contributed to the creation of a new lab website and portfolio to showcase research activities and findings.
- Collaborated with the research team to explore the mechanisms of collagen development without media, aiming to uncover potential breakthroughs in cancer treatment.

SKILLS & COMPETENCIES

Programming Languages:	SQL, C, C#, Python.
Frameworks & Tools:	NumPy, TensorFlow, Scikit-Learn, Pandas, Power BI, Tableau, MS Excel.
Databases:	PostgreSQL
Cloud Technologies:	AWS Certified (AWS CCP).
Methodologies:	Agile(Scrum), Continuous Improvement/Continuous Deployment, Unit Testing.
Workflow Automation	Using tools like Elsa Workflows to streamline healthcare tasks.

CERTIFICATIONS AND PUBLICATIONS

- AWS Certified - Cloud Practitioner.

KEY ACADEMIC AND RESEARCH PROJECTS

Lung Cancer Detection Using 3D Rendering Images (CT Scan)

Skills: Python, Neural Network, Machine Learning

- Developed a machine learning model to detect lung cancer using 3D CT scan images, focusing on lung nodules.
- Implemented a Convolutional Neural Network (CNN) architecture achieving high accuracy in cancer detection.
- Classified cancer types using Random Forest and ensemble techniques, optimizing detection in data security.

Elsa Workflow Server – Custom Workflow Orchestration with .NET 8 and Entity Framework Core

Skills: *C#, .NET 8, Elsa 3.4, REST API, SQLite, Workflow Orchestration*

- Developed and deployed a real-time server-based workflow application using Elsa 3.4, integrating custom heartbeat logic, REST endpoints, and SQLite persistence with EF Core.
- Resolved complex build issues and applied concepts of distributed execution, modular orchestration, and advanced .NET API configuration using ASP.NET Core.