Rahul Nagarajan

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EXPERIENCE

Data Engineer
People Tech Group Inc.

Sept. 2023 – Present
Redmond, WA

- Architected and developed highly scalable AI applications utilizing AWS services, including S3, Athena, Glue, and Beanstalk, optimizing for security and cost-efficiency through serverless functions and containerization.
- Developed cutting-edge RAG web applications using AWS Bedrock Claude and Titan Text Embeddings, leveraging Langchain, Langgraph, and Langsmith for robust Gen AI workflows.
- Enhanced RAG application performance by 40% through implementation of contextually preserving chunking, hybrid-based search, and custom reranking algorithms, significantly improving relevance and accuracy of information retrieval.
- Built high-performance RESTful APIs with FastAPI for CRUD operations via Pyodbc driver, enhancing system efficiency and responsiveness.
- Engineered an intelligent AWS-based code review system using CodeCommit, Lambda, and CodeGuru, integrating LLM intervention to automatically fix and optimize code, reducing development time by 30% and operational costs by 25%.
- Implemented and optimized CI/CD pipelines in AWS, streamlining development processes and significantly improving deployment efficiency.
- Designed and delivered an innovative on-premises OCR solution capable of capturing 90% of content, dramatically improving data extraction capabilities.
- Utilized Azure Cognitive Services (AI Search) to build robust RAG applications, expanding the portfolio of cloud-based AI solutions.

Research Assistant
Cal Poly Pomona PolySec Lab

Dec. 2021 – May 2023
Pomona, CA

- Initiated a novel research project exploring EEG signals for user authentication through machine learning models.
- Engineered the full design and deployment of project modules to enhance EEG signal pre-processing, feature extraction, and selection; enhancing overall system accuracy by 10%.
- Published research paper titled "EEG Signal-Based Authentication: A Performance Evaluation of Feature Extraction and Classification Techniques" in IEEE BigData 2023. [Link to paper]

EDUCATION

California State Polytechnic University, Pomona
Master of Science in Computer Science; GPA: 4.0

Pomona, CA
Aug. 2021 – May 2023

SRM Institute of Science and Technology
Bachelor of Technology in Computer Science and Engineering; GPA: 3.42 (8.65/10)

Chennai, India
July 2017 – May 2021

CERTIFICATIONS

AWS Certified Cloud Practitioner
Issued: Jan. 2024

Certificate Link
Expires: Jan. 2027

AWS Certified Developer Associate
Issued: Jan. 2024

Certificate Link
Expires: June 2027

Microsoft Certified: Azure AI Engineer Associate
Issued: Sept. 2024

Certificate Link
Expires: Sept. 2025

SKILLS

Programming Languages: Python, C++, Java, JavaScript

Libraries and Frameworks: Flask, FastAPI, JQuery, SpaCy, NumPy, Pandas, SciKit-Learn, PyTorch, Argilla, Bootstrap, SQLAlchemy, Streamlit, Langchain, LlamaIndex, AWS Bedrock, Azure Cognitive Services

Cloud Platforms: AWS (S3, Athena, Glue, Beanstalk, CodeCommit, Lambda, CodeGuru), Azure

Databases: MySQL, PostgreSQL

Machine Learning: Regression, Classification, Clustering, Neural Networks, RAG, LLMs

Software Engineering: Agile, Scrum, Object-Oriented Programming, Unit Testing, CI/CD

Other: OCR, Gen AI workflows, Similarity Search, Contextual Chunking, Hybrid Search