

Raj Pulapakura

Full Stack Software Engineer

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TECHNICAL SKILLS

Languages	TypeScript, Python, Bash, JavaScript, HTML/CSS/SAAS
Frontend and Backend	React.js, Next.js, Nest.js, HTML, CSS, SaaS, Tailwind, Material UI, Redux, Zustand, Node.js, FastAPI, Flask, Express.js, GraphQL
AI (ML + Generative AI + Data Science)	OpenAI, Gemini, Claude (APIs), Unstructured.io, Pinecone DB (vector database), MCP
Databases	MongoDB, SQL, MySQL, PostgreSQL, Redis, Firebase, ChromaDB, Snowflake, Coalesce
Cloud, CI/CD	AWS certified (ECR, EKS, EC2, S3, IAM, DynamoDB, Lambda, Athena, Glue) Azure certified (Storage, AI Services, Function App, Cosmos DB, Entra ID) Terraform, Git, GitHub, Docker

PROFESSIONAL EXPERIENCE

AI Engineer	Synogize (Data & AI agency)	Sep 2025 - Present
<ul style="list-style-type: none">Product Delivery: Key contributor to PLATTII (AI-driven Snowflake marketplace product for data analysis intended for non-technical users). Contributed to <u>slashing inference time by 50%</u>, optimising frontend loading and session management. Led and participated in sprint planning and Agile workflows.Data Engineering & Consulting: Developed 10+ data models for an international automotive company as part of modern data migration project. Contributed to requirements gathering discussions. Tools used: Snowflake, Coalesce, GitHub,Knowledge Sharing: Assisted in developing the company's AI capability through Azure AI Foundry RAG demos and knowledge sharing.Tools used: Agile methodology, Next.js, FastAPI, TypeScript, Python, Azure, Snowflake, SQL, Generative AI APIs (OpenAI, Gemini, Claude), Git, GitHub Actions		
Software Engineer Time Under Tension (Generative AI B2B agency) April 2024 - Sep 2025		

Software Engineer	Time Under Tension (Generative AI B2B agency)	April 2024 - Sep 2025
<ul style="list-style-type: none">Flagship Project: Developed a RAG chat system for a retail giant, connecting to their extensive product database. Cut customer service response time from <u>3+ hours to under 30 seconds</u> for complex product inquiries. Tech stack: React.js, Nest.js, TypeScript, Azure (Cosmos DB, Web Apps, OpenAI, AI Search), Pinecone DBFlagship Project: Engineered an AI-powered app for the legal and compliance teams of a multinational corporation. App scans product database and detects non-compliant product descriptions using AI with <u>95% accuracy</u>. AI system then auto revises descriptions as per user-provided guidelines, slashing review times by <u>over 300%</u>. Tech stack: Same as aboveProof-of-concepts, R&D: Voice (and chat) agent for an age-care service provider; Tool that converts Figma files to code via Cursor + MCP; SaaS application that converts text documents into PPT presentations.Liaised with technical and non-technical client personnel to conduct discovery calls, gather requirements, discuss project progress, and conduct live demonstrations of deliverables.Technologies used: React.js, Nest.js, TypeScript, Python, Azure's suite of AI and Compute services, Generative AI APIs (OpenAI, Gemini, Claude), Pinecone DB, Unstructured.io, Git, GitHub Actions		

Software Engineer, Intern	A.I.GORITHM (AI Startup)	Jan - Feb 2024
<ul style="list-style-type: none">Engineered a tool that enables farmers to gather detailed insights of their AOI (Area of Interest).<ul style="list-style-type: none">Insights: Bushfire likelihood, precipitation rates, satellite imageryTech stack:<ul style="list-style-type: none">Python backend which solicited 6 geospatial third-party APIs.Next.js, TypeScript and Docker frontend.		

- AWS (ECS, ECR, LB, S3, Athena and Glue) deployment. Stored several large-scale agricultural datasets (>1TB) in Apache Parquet and CSV.
- Conducted DevOps using **Terraform** and **GitHub Actions**.

CERTIFICATIONS

- Microsoft Certified: Azure Developer Associate	Jan 2026
- Microsoft Certified: Azure AI Associate Engineer	Sep 2024
- Microsoft Certified: Azure AI Fundamentals	Aug 2024
- Microsoft Certified: Azure Fundamentals	Jul 2024
- AWS Certified Machine Learning - Specialty	Jun 2024
- IBM Professional Machine Learning Certificate, IBM	Sep 2023

PERSONAL PROJECTS

Personal Website: www.rajpulapakura.com (for additional information and projects)

ClarityScan: Deep Learning for Tumour Diagnosis ([code](#), [video](#))

A medical analysis tool that enhances brain MRI scans and automatically identifies glioma tumours in the scans.

- Developed a web application so that radiologists can upload their MRI scans, denoise them, and automatically identify glioma tumors.
- Implemented 2 AI models using TensorFlow for Noise Removal and Tumor segmentation, reaching a Dice Coefficient of up to 91%.
- Deployed models to APIs with GPUs using FastAPI and Modal serverless functions, ensuring inference time during production was ~5 seconds.
- Technologies used: Next.JS, TypeScript, Tailwind CSS, Python, TensorFlow, NumPy, FastAPI, Modal, AWS ECS & LB, Git, GitHub, AWS ECR, AWS EC2

Computer Vision Search Engine ([code](#), [web](#), [video](#))

An app for finding similar images based on images you already own.

- Employed a pre-trained MobileNetV3 neural network in PyTorch to compute image embeddings.
- Deployed the model through to a BentoML backend, hosted using AWS API Gateway and AWS Lambda.
- Developed a web interface with drag-and-drop functionality enabling users to find similar images.
- Technologies used: Python, PyTorch, REST API, BentoML, TerraForm, AWS API Gateway, AWS Lambda, Next.JS, TypeScript, Vercel, Tailwind CSS, Git, GitHub

OTHER

- Passionate about AI agents, system architecture, and building enjoyable user experiences.
- Write a technical blog on [Medium](#), sharing content on AI, machine learning, deep learning, computer vision, full-stack development, and software development.
- Post videos on my [YouTube](#) channel, demonstrating my projects and sharing knowledge on machine learning and data science, web/mobile development, and software engineering.
- Love to stay active by playing basketball, volleyball and swimming.