

Nandan Pabolu

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EDUCATION:

The University Of Texas At Dallas, Bachelor of Science, Computer Science

Graduation: May 2026

SKILLS:

- **Languages:** Python, Java, JavaScript, TypeScript, C/C++, HTML
- **Cloud:** Step Functions, Lambda, EC2, API Gateway, DynamoDB, S3, CloudFront, EventBridge, SQS, IAM, WAF, KMS, CloudWatch/X-Ray, QuickSight, Bedrock
- **Frameworks:** Node.js, React.js, Django, Streamlit
- **ML/AI:** LangChain, RAG, Ollama, Chroma, Bedrock Nova Reels, Amazon Transcribe, Amazon Polly, NLP, Sentiment Analysis, Prompt Engineering, Fine-Tuning, Generative AI, Multimodal AI, Pandas
- **Database Management:** MongoDB, Pinecone, SQL
- **DevOps:** Docker, CI/CD, Linux, GIT
- **Certifications:** [AWS Certified Solutions Architect Associate](#), [AWS Certified AI Practitioner](#), [AWS Cloud Practitioner](#)

WORK EXPERIENCE:

[Amazon Web Services \(AWS\)](#), Solutions Architect Intern - Austin, Texas

May 2025-August 2025

- **Lumina — serverless AI media pipeline:** Orchestrated 5+ Lambda microservices with Step Functions (Choice/Map/Parallel) for Bedrock Nova Reels video gen, Polly dubbing, Transcribe + NLP captioning, and FFmpeg; authored a parallel-processing engine (segment-level encoding) and a hierarchical assembly engine (multi-resolution/bitrate stitching) to deliver 30-sec videos in <3 min (~80% faster).
- **Latency, cost, and observability:** Cut media I/O ~70% via ephemeral /tmp + S3 multi-part; reduced cold starts ~40% with Lambda Layers (FFmpeg/AI SDKs) + provisioned concurrency; added CloudWatch/X-Ray with p50/p95 SLOs and payload down-selection for lower unit cost.
- **Security & production readiness (business impact):** Implemented least-privilege IAM, KMS-encrypted S3, CloudFront signed URLs, WAF, Secrets Manager, idempotency keys, DLQs, and exponential backoff—passed security review gates and prepared an AWS blog demo so customers can evaluate Nova Reels for production-grade marketing/education workflows.
- **AWS Tetris — [re:Invent 2025 Builders Fair POC](#):** Built real-time multiplayer on API Gateway (WebSocket/HTTP) + Lambda + DynamoDB for <100 ms state sync and ~60% less network chatter vs polling; S3 + CloudFront for <100 ms median page load; showcased event-driven serverless patterns to educate customers and partners.
- **PEAK — Promotion Evaluation & Analysis Kit (production):** Internal AI that saves managers 30–40 hrs/quarter by auto-critiquing promo docs in Amazonian style; fine-tuned Claude 4 Sonnet with prompt templates/seed controls; unified 15+ telemetry sources into a warehouse-ready schema with QuickSight dashboards (hourly refresh) for leadership decision-making.

[Skoob.ai](#), AI/ML Engineering intern - Remote:

May 2024- July 2024

- Developed a Retrieval-Augmented Generation (RAG) pipeline to enhance chatbot capabilities, resulting in a 25% increase in user engagement by providing context-aware responses.
- Engineered an advanced sentiment analysis pipeline for Customer Satisfaction (CSAT) feedback, achieving a 40% improvement in sentiment detection accuracy using NLP techniques.

PROJECTS:

[CodeCompass \(MCP Server\):](#)

August 2025

- Architected and deployed CodeCompass, an MCP server + Streamlit dashboard that processes 1000+ code files/minute and reduces code search time by 75% through AI-powered analysis. Built using Python 3.12+, asyncio, JSON-RPC protocol with 5 core tools and enterprise-grade safety controls. Achieved 100% test coverage, automated CI/CD pipeline, and 99.9% uptime serving both AI clients and human users.

[AI Multimodal meeting assistant:](#)

August 2025

- Architected and deployed a production-ready AI-powered meeting transcription system using OpenAI Whisper, BART summarization, and advanced NLP techniques, achieving enterprise-grade quality with zero external API dependencies and full privacy compliance"

[AI Stock predictor/Bot:](#)

July 2024

- Developed a [hybrid predictive model](#) combining linear regression and moving averages to boost stock prediction accuracy by 20%, integrating sentiment analysis of web-scraped news for dynamic adjustments (+15% responsiveness) and delivering an interactive UI with real-time visualizations.

[Personal Chatbot with RAG pipeline:](#)

May 2024

- Built a privacy-focused Streamlit application integrating local LLMs with RAG for contextual question-answering, leveraging Python 3.12+, LangChain, Chroma, and Ollama for efficient model management and document processing; improved query accuracy by 35% while ensuring real-time, accurate responses.

ACCOMPLISHMENTS:

- AWS Global AI Expo Winner June 2025
- Co-Founder of Blindly- The blind dating app August 2025
- Co- Founder of an Edu Learn platform [Optigrit](#) Technologies May 2024
- Co-Founder of [Theta Tau Alpha](#) CS fraternity at UTD. September 2023
- Co-Founder of a Food delivery startup Ahar January 2024
- NextGenius national merit scholar. March 2022