

# Cory Morgan

**AWS Certified Solutions Architect – Associate**

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GitHub | LinkedIn

## Summary

Certified AWS Solutions Architect with a fullstack background and AI/ML expertise. Experienced in deploying scalable cloud infrastructures, building intelligent applications, and leading cross-functional teams in fast-paced environments.

## Technical Skills

**Languages:** Python, JavaScript, TypeScript, SQL

**Web/Tools:** Node.js, React, Express, PostgreSQL, Docker, Git, GitHub

**AI/ML:** AWS SageMaker, Gemma LLM, TensorFlow, PyTorch, Hugging Face, YOLO, OpenCV

**Data Science:** NumPy, PIL, Pandas, Matplotlib, Seaborn, Data Pipelines, Data Modeling, ETL

**Cloud:** Terraform, AWS (Lambda, S3, DynamoDB, API Gateway, Route 53, CloudFront, IAM, CloudWatch)

## Certifications

- AWS Certified Solutions Architect – Associate, AWS, May 2025
- AI Engineering Fellowship, KaggleX, Dec 2024
- Semantic Segmentation with Amazon SageMaker, Coursera, Feb 2025
- Computer Vision & Deep Learning with PyTorch, Udemy, Jan 2025

## Projects

### AWS Cloud Resume Challenge

- Deployed a personal resume site using AWS S3, CloudFront, Route 53, Lambda, and DynamoDB.
- Provisioned infrastructure with Terraform and added a serverless visitor counter.
- Integrated GitHub Actions CI/CD and CloudWatch alarms with Slack notifications.

### AI-Powered Semantic FAQ Search Platform

- Built a secure, cost-efficient AWS stack with Terraform: provisioned a VPC, EC2 instance, S3 bucket and IAM roles to host Weaviate and Streamlit.
- Developed hybrid BM25 + vector search with Weaviate and OpenAI embeddings.
- Deployed EC2-hosted semantic search frontend with Docker and ECR pipelines.

### Semantic Image Segmentation Model

- Developed a scalable semantic segmentation pipeline and real-time endpoint using Amazon SageMaker.
- Processed and augmented image data with Python (PIL, NumPy, Matplotlib) for training.
- Trained and optimized models using SageMaker algorithms and custom scripts for high accuracy.

### Video Instance Segmentation Model

- Engineered a YOLOv8-based video instance segmentation model on TPU for real-time vehicle detection and tracking, exporting to ONNX for optimized GPU inference.
- Boosted accuracy with advanced OpenCV augmentations and a custom preprocessing, annotation, and fine-tuning pipeline.
- Delivered scalable, low-latency cloud- and container-ready deployment for autonomous systems and surveillance analytics.

### Monarch: AI-Powered Personal Finance App

- Developed backend for AI-driven finance app using Node, Express, and PostgreSQL, optimizing data flow and storage.
- Integrated OpenAI chatbot for personalized investment advice, boosting user engagement.
- Delivered features in Agile sprints with CI/CD, ensuring continuous improvements and code quality.

## Experience

### AI Engineering Fellow – KaggleX

Aug 2024 – Dec 2024 | Remote

- Developed and fine-tuned an AI medical chatbot using Gemma LLM and TensorFlow.
- Applied prompt engineering and optimized model pipelines for accuracy and performance.

### Lead Care Coordinator – Spear Physical Therapy

Jun 2023 – Present | Brooklyn, NY

- Led patient coordination and streamlined front desk workflows in a busy healthcare clinic.
- Enhanced service delivery and operational efficiency across multiple departments.

### Software Engineering Student – Thinkful, Chegg Skills Inc.

Apr 2023 – Oct 2023 | Remote

- Completed intensive fullstack development curriculum.
- Built mobile-first web apps with mentorship and agile feedback loops.

## Education

**Rochester Institute of Technology** – B.S. in Business Management & Marketing