Sam Pautrat

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Objective: Looking for an Full Time Entry-Level position

EDUCATION

Cornell University- College of Engineering   **Ithaca, NY**

B.A. Information Science - Interactive Technology, Data Science Concentration   Aug 2022 - December 2026

GPA: 3.7/4.0

Relevant Coursework: Practical Tools for Machine Learning, Text Mining, Data Structure, Data Science, Statistical Modeling

Campus Involvement: Big Red Hacks, Poker Club, App Dev, Pro-yos, Sigma Alpha Epsilon

EXPERIENCES

Human Voice Over   **Staten Island,NY**

AI Automation Engineer   June 2025-August 2025

- Built and deployed Backend Infrastructure to automate database optimal file compression and database migration to be sent to business partners in line with business workflow (AWS,N8N,Airtable)

RippleMatch   **Remote**

Software Engineering Intern   December 2023-March 2024

- Built and deployed a job description similarity algorithm that outperformed peer models by 13%.
- Deployed application to AWS with CI/CD pipelines for automated testing and uptime.
- Implemented system monitoring and failover to minimize downtime and improve reliability.

Grand Corner Realty Group   **Queens, NY**

Software Engineering Intern/Data Analyst   June 2022-August 2023

- Built ML models in Python to identify high-potential real estate deals, projected 20% profit increase.
- Processed and analyzed hundreds of listings using Excel and SQL to surface key trends and metrics.
- Automated data pipelines with AWS (EC2, Glue, Athena) and Apache Kafka to streamline listing analysis.
- Delivered bi-weekly reports with visualizations to support strategic investment decisions.

PROJECTS

Personal Knowledge Assistant- RAG Document QA System

Link to Github

Built a private data QA system for personal use to better optimize querying and data retrieval.

- Ai powered document querying with end to end pipeline integrating pdf processing
- Vector embedding generation with OpenAI APIs and semantic search using FAISS vector database

Automated Video Compression Pipeline

Link to Github

- Architected automated pipeline using Python, FFmpeg, and OpenCV for standardized compression
- Vector embedding generation with OpenAI APIs and semantic search using FAISS vector database
- Automated cloud deployment to AWS S3 with error handling and retry mechanisms for reliability

Full-Stack AI Application: Deepfake Detection Platform

Link to Github

- Built AI security system protecting against deepfake fraud, processing 500+ daily verification requests
- Achieved 94.2% accuracy on FaceForensics++ benchmark, outperforming baseline models by 8%
- Developed ensemble method combining 3 CNN architectures, achieving 97% accuracy with 96.8% precision
- Reduced processing time from 15 seconds to under 2 seconds through model optimization

ADDITIONAL INFORMATION

Certificates: AWS Cloud Practitioner, IBM Data Analyst, Certified Kubernetes Application Developer (CKAD)

Skills: Python, Data Mining, Hugging Face models, Postgres, Swift, JavaScript (Node.js, React, React Native), HTML/CSS, SQL, R, MATLAB, Mathematica, AWS (EC2, Glue, Athena), Kubernetes, DevOps (CI/CD Pipelines, Monitoring), RESTful APIs, Full-Stack Development, Object-Oriented Programming, Data Structures and Algorithms, Machine Learning (NLP, Model Backtesting), PyTorch, TensorFlow, Data Analysis and Visualization (Python, SQL, Tableau, Excel), Automation and Scripting, Agile Development, Java, C++