PRAJWAL KUMAR

AI / Machine Learning Engineer — Data Science — Generative AI

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SUMMARY

AI/ML Engineer with hands-on experience building, evaluating, and deploying production-grade ML systems and data-driven applications. Strong background in supervised learning, deep learning, and generative AI, with end-to-end ownership across data processing, model training, experimentation, and cloud-native deployment using Python, PyTorch, AWS, and GCP.

EDUCATION

Carnegie Mellon University **Pittsburgh, PA**
Master of Science in Artificial Intelligence Engineering, GPA: 3.6 December 2025
Coursework: Data Engineering, Deep Learning, Machine Learning in Production, Generative AI, Trustworthy AI

Maharshi Dayanand University **Rohtak, India**
Bachelor of Technology in Computer Science and Engineering June 2024

EXPERIENCE

Infinite Computer Solutions **Irving, TX**
AI/ML Summer Intern **May 2025 - August 2025**

- Designed and deployed an agentic AI system to automatically extract, structure, and analyze telecom plan data across major U.S. carriers, reducing manual testing and enabling faster, data-driven market comparisons for enterprise stakeholders.
- Built a production-grade retrieval-augmented generation (RAG) system backed by a Neo4j knowledge graph, enabling semantic search over large-scale telecom plan data and improving discoverability for product and analytics teams.
- Containerized and deployed the end-to-end system using Docker and Kubernetes (Helm), delivering a scalable Streamlit-based analytics dashboard with data export to support faster, self-serve business analysis.

Qriocity **Chennai, India**
Machine Learning Developer Intern **January 2024 - February 2024**

- Developed a healthcare-focused ML pipeline using TensorFlow to model medical ontologies and predict prescriptions from structured clinical data, achieving 99% accuracy and demonstrating real-world applicability in clinical decision support.
- Built a multimodal ML system using TensorFlow-based DNNs and KNN classifiers to model emotional VAD signals from text features (TF-IDF), enabling reliable emotion classification for mental health applications.

Zummit Infolabs **Bengaluru, India**
Data Science Intern **November 2022 - March 2023**

- Built a CNN with Squeeze-and-Excitation (SE) blocks to classify image quality (sharp, blurred, overexposed) on a 10GB dataset, enabling automated image quality filtering and more reliable downstream computer vision training pipelines.

ACADEMIC RESEARCH & PROJECTS

End-to-End Movie Recommender with Kafka, Kubernetes, and A/B Testing - Carnegie Mellon (GitHub)

- Built a scalable KNN-based movie recommender (NDCG@10 = 0.9983, 65K+ QPS) with Dockerized microservices, Kubernetes, CI/CD (Jenkins), and CRON-based retraining; integrated A/B testing and real-time monitoring with Grafana.

Emotion-Aware Multimodal AI Companion - Carnegie Mellon University (GitHub)

- Built a multimodal AI companion with speech-to-text (Google API), CNN-based SER (71.2%), and Transformer models; improved LLM empathy by 30% via psychoanalysis modules and deployed a Streamlit app for real-time emotion feedback.

Malware Classification using Multi-Modal Approaches – Carnegie Mellon University (GitHub)

- Designed a multi-modal malware detection pipeline using CNN (ResNeXt), XGBoost (n-grams), and LLaMA-based LLMs, achieving 99.68% image classification accuracy and building a real-time GUI with JSON-based LLM explainability.

Cloud-Native Soccer Player Valuation Platform - Carnegie Mellon University (Github)

- Designed an end-to-end data system on GCP to predict player value; built PySpark ETL pipeline from GCS to Cloud SQL (PostgreSQL) and trained regression models (SparkML, PyTorch) using Optuna/CrossValidator, deployed via Cloud Run.

Advancing Image Security through Deep Learning and Cryptography in Healthcare Industry - IEEE (Paper)

- Conference paper on a deep learning–based cryptographic framework for securing medical images in IoMT environments.

SKILLS

Programming & Data: Python, SQL, Pandas, NumPy, PySpark, PostgreSQL, Neo4j, AWS (EC2), GCP, Streamlit
ML & GenAI: PyTorch, TensorFlow, Scikit-learn, LangChain, OpenAI GPT, LLMs, RAG, Vector Databases, Playwright
Systems & MLOps: Git, Docker, Kubernetes, Kafka, MLflow, Jenkins, CI/CD, Linux, REST APIs, Prometheus, Grafana