# AKSHAT MISHRA

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## EDUCATION

**New York University**, New York — May 2026
Master's in Computer Engineering
Coursework: Machine Learning, Deep Learning, Big Data, MLops, Systems Engineering, ML for CyberSecurity.

**APJ Abdul Kalam Technical University** — Dec 2020 - Jul 2024
Bachelor's in Computer Science
Coursework: Data Structures, Computer Networks, Operating System, Artificial Intelligence, Database Management

## PROFESSIONAL EXPERIENCE

**MARV Capital — AI Engineering Intern** — Jun 2025 - Present

- Architected ML pipelines for a financial content moderation engine, integrating **regex heuristics**, **LightGBM**, and **Phi-2 fine-tuned LLMs** to classify and escalate risky posts with multi-band severity.
- Constructed predictive models and a custom thread scoring engine to rank user-generated financial content, enabling tailored moderation and engagement insights.
- Deployed **LangChain** and **CrewAI** to orchestrate agentic workflows for LLM-based escalation, human-in-the-loop overrides, and context-aware moderation responses.
- Delivered interactive analytics dashboards using **Grafana** and **Streamlit**, monitoring moderation accuracy, pipeline latency, and user sentiment in real time.
- Spearheaded development of 3 prototype applications for financial fraud detection and post-quality assessment, leveraging **Dockerized pipelines** and **PostgreSQL** with end-to-end observability via **Prometheus**.

**Career Launcher, Prayagraj — Data Analyst Intern** — Jul 2023 - Dec 2023

- Automated ETL processes using **Python** and **SQL**, improving data accuracy by **30%** and reducing manual processing time.
- Consolidated student performance data from sources into a centralized **SQL**-based database, enhancing structured reporting and analytical insights.
- Led in developing instructional materials & dashboards using **PowerPoint**, **Tableau**, and **Excel** for training sessions, enhancing decision-making for **200+ educators**.

**Bringup Education, Soanbhadra — Intern ML Trainee** — Feb 2023 - Apr 2023

- Created a resume screening tool using **NLTK** and **Matplotlib**, increasing recruitment efficiency by **50%** and integrating with a web application interface.
- Engineered parsing algorithms to analyze resumes on basis of **20+ parameters**, identifying top **5%** candidates and streamlining the recruitment process based on historical data which improved quality of hire metrics by **20%**.
- Optimized the data preprocessing pipeline to streamline feature extraction and formatting, resulting in a **35%**improvement.

## PROJECTS

**Intelligent Multimedia Processing (IMP) for Enterprises**

- Orchestrated an **LLM-driven pipeline** using **RAG** architecture to enable natural language querying over multimedia transcripts (Text,Audio,Video), enhancing user interaction by **40%**.
- Curated and indexed audio-visual content using **FAISS** and **HuggingFace Longform Transformers**, optimizing retrieval accuracy with a **Top-k Precision of 92%**.
- Integrated **MLOps tools MLflow, and FastAPI** for scalable deployment, reducing model latency by **30%** in query responses.
- Collaborated with cross-disciplinary engineers to define multimedia metadata schema and annotation workflows, improving data consistency and accelerating downstream model training.
- Implemented automated **Argo CI/CD** pipelines with **Docker Compose** and **GitHub Actions**, reducing deployment time by **70%** and ensuring reproducible end-to-end ETL runs.

**Adversarial Attacks on ImageNet Classifiers**

- Analyzed the robustness of ResNet-34 against FGSM, PGD, and patch-based adversarial attacks on ImageNet-1K, reducing Top-1 accuracy from **76%** to as low as **0%** under PGD.
- Designed transferability experiments on DenseNet-121 to evaluate cross-model attack effectiveness, observing up to **54.8%** Top-1 accuracy degradation.
- Constructed an end-to-end PyTorch pipeline with visualization, metrics, and comparative evaluation of adversarial attack.

## SKILLS

- **Languages:** Python, R, C/C++, Java, SQL, HTML, JavaScript, Assembly, MATLAB, Bash.
- **Frameworks:** NumPy, Pandas, Scikit-Learn, OpenCV, BeautifulSoup, NLTK, Matplotlib, TensorFlow, Apache, Keras, Excel, Spark, Seaborn, FastAPI, HuggingFace, FAISS, Plotly, Streamlit.
- **Tools & Platforms:** Tableau, Hadoop, AWS, Power BI, Jira, Confluence, Hive, Docker, Kubernetes, MLflow, CI/CD, Git, REST APIs, Airflow, Kafka, Postman, MongoDB, MySQL, Google Cloud Platform (GCP), Azure.