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**Haris Bin Ismail**

Machine Learning Engineer | AI/ML-Developer

**PROFESSIONAL SUMMARY**

**Aspiring AI/ML Engineer with 2+ years of hands-on experience in developing full-stack, production-ready intelligent systems.** Passionate about building smart automation solutions that empower small to large-scale businesses through applied machine learning and AI. Skilled in bridging the gap between backend engineering, AI model integration, and intuitive frontend design.  
 I bring a strong focus on R&D-driven problem solving, with a track record of delivering systems such as AI-powered recruitment platforms, autoencoder-based compression pipelines, and real-time analytics tools. My core drive lies in crafting scalable, efficient, and domain-adaptable AI applications that solve real-world business pain points.

**EDUCATION**

**BS – Artificial Intelligence GIKI *2026***

**EXPERIENCE**

**Machine Learning Engineer (Intern) | C&AE, NASTP** *June 2025 – Aug 2025*

* Led the end-to-end design and development of **HRMS**, a full-stack AI-powered Human Resource Management System for NASTP.
* Led a team of **2 interns**, coordinating sprint cycles, code reviews, and feature delivery.
* Developed and integrated **AI components** including resume parsing, candidate scoring, red flag detection, and a RAG-enabled **Stream-lit chatbot** for HR query resolution and job matching. Designed and built a **responsive, modern web application** using React 18, Tailwind CSS, and TypeScript with optimized routing, UI state, and **real-time KPI-analytics dashboards**.
* Designed and implemented multiple **autoencoder** architectures to test compression on synthetic and benchmark datasets.
* Trained domain-specific autoencoders and evaluated them using **MSE, MAE, and PSNR** to assess reconstruction accuracy at various compression levels. Analysed cutting-edge research (e.g., Meta AI’s Audio-MAE, Txt2Vid) and public repositories to benchmark design patterns and performance expectations.
* **Achieved compression rates of up to 50%** while maintaining acceptable reconstruction quality (Test MSE ≈ 0.02), confirming model viability for specific structured data types.

**SKILLS**



|  |  |  |
| --- | --- | --- |
| **Programming** |  | **TensorFlow/Keras** • C++/C • CSS • **JavaScript** • Scikit-Learn • OpenCV, spaCy • Hugging Face Transformers **• FaceNet, DeepFace** • MySQL, **PostgreSQL** • **MongoDB** • **MERN stack** • ASP.net, C# • Flask/Django • AWS • **GitHub(VC**) |
| **Machine learning**  **Deep learning Frameworks** |  | Reinforcement Learning • NLP • **Applied Computer Vision**  **Generative AI** • Data Science • **Data Ingestion** • **Pipeline Automation** • **EDA**  Preprocessing • RAG  **Pytorch** • **Pytorch Lightning** • **Tensorflow** • Keras • **Hugging Face(Transformers)** • SciPy • **OpenCV** Scikit-Learn • Pandas • **Wandb** |
| **Web Development** |  | Flask • REST API • SQL • MongoDB • MERN |

**PROJECTS**



* **Smart Attendance System**

***Tech Stack:*** ***Python, YOLO, DeepFace, Flask, React, SQLite***

Computer Vision based system that automates attendance marking from group photos using facial recognition. Integrated YOLO for real-time face detection and DeepFace for accurate identity matching. Designed a full-stack architecture with React (frontend), Flask (backend), and SQLite for storage. The system significantly reduces manual effort and improves accuracy in classroom attendance tracking.

* **AI-Powered Recruitment Platform – NASTP HRMS**

***Tech Stack: TypeScript, React, Express.js, PostgreSQL, Drizzle ORM, Groq , Redis, Streamlit, Supabase***

Full-stack Human Resource Management System designed to streamline recruitment, assessments, and candidate evaluation. Built a modern, responsive web application with role-based access for admins and candidates. Integrated AI-powered resume scoring using Groq API and developed a Streamlit-based RAG chatbot for job matching and HR query resolution. Features include semantic candidate search, red flag detection, automated scoring, assessment delivery, and real-time analytics on a PostgreSQL + Redis backend with Neon serverless architecture.

* **Autonomous-Driving Accident Prevention System using YOLOv5 and LSTM**

***Tech Stack: Python, PyTorch, YOLOv5, LSTM, OpenCV, Flutter, Feature Extraction***

Deep Learning based accident prevention system that forecasts vehicle collisions in real-time from dashcam surveillance footage. Leveraged YOLOv5 for object detection and LSTM networks for modeling/learning temporal vehicle dynamics using the CADP datasets. Achieved early collision detection 2-4 seconds before impact. Flutter-based interface for real-time video upload, vehicle tracking, and accident alert.

* **Autoencoder-Based Data Compression for Communication Systems**

***Tech Stack: Python, PyTorch, Autoencoders, OpenCV, NumPy, MSE/PSNR Evaluation***

Deep learning-based feasibility study exploring the use of autoencoders for compressing telemetry, audio, and image data in communication pipelines. Implemented and evaluated custom autoencoder models on benchmark datasets (MNIST, WAV) to measure reconstruction fidelity at various compression ratios. Assessed generalization performance across domains and highlighted limitations in handling out-of-distribution inputs. Benchmarked models using MSE, MAE, and PSNR, and reviewed relevant research (e.g., Meta’s Audio-MAE, Txt2Vid) and open-source tools. Findings guided recommendations for domain-specific training using real sensor data.