

MOHAK MALVIYA

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Summary

ML / AI Engineer with experience in building production ready AI APIs, Agentic workflows, computer-vision systems, FastAPI services, and PyTorch/TensorFlow models. Experienced in taking ML solutions from experimentation to API integration, job orchestration, data tracking, and deployment-ready workflows.

Education

Shri Govindram Seksaria Institute of Technology and Science, Indore, India
B.Tech Electrical Engineering | CGPA: 7.2

Nov 21 - May 25

Technical Skills

Languages: Python, C/C++, HTML/CSS, TypeScript/JavaScript

Technologies: MCP, Git, Agentic workflow, AI Trainer, PyTorch, TensorFlow, ROS, Moveit, OpenCV, Linux (Ubuntu/Arch), Firebase, Vercel, Django, SQL/PostgreSQL, IOT, VectorDB, RAG systems

Experience

Botmartz IT Solutions | Machine Learning Engineer

Oct 25 – May 26

- Built and integrated a production **virtual try-on** system using **FastAPI**, **ComfyUI** workflows, GPU job queues, **MCP**, **AI Agents**, business API keys, per-customer generation tracking, and web/ecommerce frontend delivery for generated, recent, and saved try-on images.
- Developed an API redundancy validation platform with FastAPI, Flask dashboarding, shared **OpenAPI** parsing logic, embedding-based similarity scoring, cache management, health/statistics endpoints, and Docker-ready deployment workflows. Implemented UAC API with **CI/CD** pipeline, synchronization and delta-tracking pipelines to fetch **REST API** specifications, detect added/modified/removed versions, maintain SQL/SQLite audit trails, support idempotent scheduled runs, and integrate with Azure-oriented deployment/secrets workflows.

Anuyog Software Solutions PVT LTD | Data Science Intern

Jul 22 - Jan 23

- Engineered a **PyTorch-based RNN** sentiment analysis model, improving prediction accuracy to 81% through transfer learning.
- Pioneered and integrated **expense-tracking** and **data visualization** features into a **Django-based finance app**, improving user engagement metrics.
- Developed a **CNN** model for Covid-19 x-ray classification, attaining 92% accuracy through hyperparameter tuning and data augmentation.
- Fine tuned GPT for personalized horoscope generation, leveraging advanced NLP techniques to enhance content relevance.

Projects

- Built an **AI-assisted multi-agent paper-trading platform** where specialist agents analyze technical signals, market regimes, news, and portfolio risk; implemented **RAG-style SQLite memory** to retrieve validated trade patterns and failures, and **MCP/Open API integrations** for broker and market data, with deterministic risk controls and auditable M15 execution.
- Formulated and Simulated Robot to Navigate using **ROS**, **Moveit** and **Nav2** attach the rack and picking and placing it, Manipulate Robotic Arm to detect boxes using Aruco markers and picking and placing them.
- Built ClauseGrid, an agentic Excel auditing tool that uses **RAG** to find and cite relevant rules from policy PDFs. An audit manager agent examines formulas and runs sandboxed tests, while a separate falsifier agent challenges proposed corrections. Approved rules are converted into deterministic tests for consistent future audits with zero AI calls.
- Improved a **YOLOv8-based object detection system**, reducing image processing time to under 300ms per frame, significantly improving recognition speed for real-time applications.

Academic and Extracurricular Achievements

- Secured 1st place in IIT Varanasi's **ML Hackathon**, excelling in **Kaggle**-based problem-solving tasks.
- Advanced to Stage-2 of E-Yantra **Robotics Competition** (IIT Bombay) by developing an **autonomous navigation algorithm**.

Positions of Responsibility

Google Development Students Club | ML Lead

Aug 23 - Jul 24

SymPY | Open Source Contributor

Jan 24 - Present