# Pandurang Mopgar

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Portfolio

## SUMMARY

AI Engineer and Certified Generative AI Developer specializing in LLMs and prompt engineering. Proficient in Python, machine learning frameworks, and MLOps practices. Experienced in fine-tuning models and developing AI applications. Passionate about leveraging cutting-edge AI technologies to solve complex problems and drive innovation in NLP, computer vision, and multimodal AI systems.

## EDUCATION

**Bachelor of Computer Science**, MGM College of Engineering, Kamothe          Expected 2025

- CGPA: 8.0/10
- Relevant Coursework: Data Warehouse and Mining, Cloud Computing, AI, Deep Learning

## Achievements

- Oracle Certified Generative AI Developer
- Finalist, Smart India Hackathon 2023
- Internal Winner, Smart India Hackathon 2024
- 2nd Place, Accenture Innovation Challenge 2024 (Sandbox Phase)
- Open Source Contributor: Contributed to *lobechat* (50k+ stars on GitHub)

## PROJECTS

**Intelligent Enterprise Assistant (Smart India Hackathon Winner)**

- Developed an AI-driven solution that streamlines information access and improves efficiency within organizations
- Reduced time spent on information retrieval by 70%, significantly enhancing employee productivity
- Improved new employee onboarding process, cutting training time by 40%
- Awarded first prize in the college's internal Smart India Hackathon, recognizing its innovative approach and potential real-world impact

**AI-Enabled Water Well Predictor (Smart India Hackathon Finalist)**

- Collaborated with the Government of India to address critical water resource management challenges
- Increased successful well drilling rate by 35%, potentially improving water access for thousands of people
- Reduced costs associated with unsuccessful drilling attempts by an estimated 25%
- Provided valuable data-driven insights for long-term water sustainability planning

**AI-Powered Personalized Newsletter with Multi-Agent System**

- Developed a one-of-a-kind AI newsletter platform allowing users to modify their preferences and add custom interests, leveraging a multi-agent system with Google's Gemini API for intelligent content curation and personalized delivery
- Built the entire application using Next.js, integrated Shadcn for sleek UI design, implemented Redis for efficient caching, and utilized Supabase for secure storage of user preferences and custom interests
- Created a high-impact, developer-focused newsletter delivering curated AI insights, breaking news, and analysis of new technologies' impact on software development, supporting continuous learning in the rapidly evolving field of AI

**Breakthrough in AI Reasoning: Enhanced Chain of Thought**

- Achieved a significant milestone in fine-tuning language models for advanced reasoning
- Successfully solved complex problems that challenge even advanced models like Claude 3.5 Sonnet and GPT-4
- Implemented ChatGPT-01-style Chain of Thought (CoT) reasoning on Qwen 2.5 7B and Llama 3.2 3B Instruct models

**OmniHealth: AI-Powered Multi-Disease Prediction and Personalized Healthcare Platform**

- Built a unified AI system for predicting diabetes, heart disease, lung cancer, pneumonia, brain tumors, and Alzheimer's disease, achieving 92%+ diagnostic accuracy overall, with the Alzheimer's prediction model achieving 99.14% accuracy.
- Employed advanced techniques, including attention mechanisms in Vision Transformers for medical imaging (CT scans, X-rays, MRIs) and ensemble approaches for analyzing clinical data .
- Integrated AI-powered assistants like Nutrition Analyzer, Diet planner, Exercise coach, Symptom Analyzer, and Mental Health Assistant to provide personalized care solutions tailored to patient needs
- Showcased potential to revolutionize early disease detection and improve healthcare outcomes through innovative diagnostic and care tools

## SKILLS

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|---|---|
| **Programming Languages** | Python, Java, JavaScript, SQL |
| **AI/ML Frameworks** | TensorFlow, PyTorch, Scikit-learn, Transformers |
| **Cloud & MLOps** | AWS, Docker, Kubernetes |
| **Frontend** | HTML, CSS, JavaScript, React, Streamlit, Next.js |
| **Backend** | Flask, FastAPI, Node.js |
| **Generative AI** | LLMs, Fine-tuning, PEFT, LoRA, RLHF, LangChain, Prompt Engineering |

## CERTIFICATIONS

- Oracle Certified Generative AI Developer
- Machine Learning Specialization (DeepLearning.AI and Stanford University, Coursera, 2024)
- Deep Learning Specialization (DeepLearning.AI, Coursera, 2024)
- Machine Learning in Production (DeepLearning.AI, Coursera, Sep 2024)
- Mathematics for Machine Learning and Data Science Specialization (DeepLearning.AI, Coursera, 2024)
- Building 12+ Generative AI Applications (Udemy, 2024)
- Power BI Data Analyst (Microsoft, Coursera, In Progress)
- Career Essentials in Generative AI (Microsoft, LinkedIn Learning, 2024)
- Introduction to Large Language Models (DeepLearning.AI and Amazon AWS, Coursera, 2024)
- Azure Machine Learning (Microsoft Learn, 2024)