

Bhushan Kale

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PROFESSIONAL SUMMARY

Machine Learning Engineer with **2+ years** of experience in machine learning, data science, and software development. Skilled in applying ML and deep learning to computer vision and NLP and building scalable AI solutions on **AWS** and **GCP**. Proficient in **Python** and frameworks like **TensorFlow**, with expertise in **Linux** and strong knowledge of software-hardware interactions.

SKILLS

Programming and Tools: Python, Java, SQL, Web Scraping, Agile Methodology
LLMs and Frameworks: GPT-4, Llama, Mistral AI, Huggingface, LangChain, TensorFlow, Pandas, Numpy
AI/ML and Techniques: Generative AI, RAG, NLP, Neural Networks, Deep Learning
Cloud and Tools: AWS, GCP, Jenkins, CI/CD, Microservices, Git, Github, JIRA
Web & UI Development: HTML, CSS, Streamlit, React.js
Databases: MySQL, MongoDB, VectorDB
Soft Skills: Problem-solving, teamwork, adaptability, communication, resilience

WORK EXPERIENCE

Teaching Assistant Next Generation Technologies II	University of Galway, Ireland Jan 2024 – May 2024
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- Guided 80+ students in 2D Games and Java using problem-based learning, facilitating 100+ coding exercises on AI integration and game mechanics, resulting in improved course delivery and positive feedback.

Software Developer - AI/ML AMDOCS DEVELOPMENT CENTRE LLP	Pune, India May 2021 - May 2023
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- **Enterprise-Level AI Model Customization and Deployment:** Contributed to the development of Amdocs **amAIz** platform, focusing on customizing and **fine-tuning** AI models for industry-specific use cases. Collaborated with cross-functional teams to integrate **LLMs** and **Generative AI** capabilities, ensuring seamless alignment with enterprise systems.
- **Time Series Model Development:** Accomplished a 70% reduction in human intervention in network KPI degradation failures by automating detection through the development of time series forecasting models using **Python** and **machine learning**.
- **LSTM Log Analytics:** Improved root cause analysis by 30% by executing LSTM-based log analytics using TensorFlow, Keras.
- **ML Model Deployment:** Managed over 1,000 low-latency requests per minute by deploying ML models as **microservices** in a **CI/CD pipeline** on AWS.
- **Team Collaboration:** Collaborated with global, cross-functional teams to deliver high-performance software solutions, with a focus on **Agile methodologies** and continuous integration.
- **Microservices Development:** Enhanced system performance, achieving a faster deployment time, 40% quicker response time, and a 35% reduction in system errors by designing and deploying scalable microservices using **Spring Boot**, **Hibernate**, **Java**, **MySql** and AWS.
- **CI/CD and Middleware Management:** Streamlined CI/CD pipelines with Jenkins and version control via Git, integrated SOAP and **REST APIs**, and deployed on WebLogic Server and Orchestrated middleware services with Oracle Service Bus, xQuery, XML, and Java, supporting over 10,000 concurrent users while applying **Agile** workflows tracked in **JIRA**.

Software Engineering Intern

Proficient Test Prep and Abroad Solutions

India

Apr 2020 - Sep 2020

- Co-ordinated to the development of an in-house application, “Quizly” using **ReactJs**, **NodeJs**, and **J2EE**, demonstrating professionalism, and delivering high-quality performance while enhancing technical skills.

PERSONAL PROJECTS

Advanced RAG System for Real-Time Product Recommendations

Aug 2024

- Boosted recommendation relevance by 30% by creating an AI-driven **product recommendation system** using **RAG** and real-time **web-scraping** from e-commerce platforms with BeautifulSoup, Playwright, and asyncio.
- Accelerated search accuracy by integrating the **Mistral 7B** model with help of **LangChain** and **Huggingface** for local **LLM** processing and implementing **hybrid search** methods (BM25, FAISS) with **reranking** via the Cohere rerank API and utilizing a **Vector Database (FAISS)** for efficient storage and retrieval of embeddings.
- Delivered **real-time** AI-driven product suggestions, providing a user-friendly experience, by designing an interactive **Streamlit** interface incorporating live market data.

Real-Time Video Filter Application

Nov 2023

- Achieved over 90% accuracy in real-time video processing by integrating custom **ONNX** models for **human segmentation** (PP-HumanSeg) and **facial detection** (YuNet).
- Elevated user experience by creating over 5 interactive filters, including background replacement and gesture-based controls with **MediaPipe**.
- Ensured smooth operation at up to 30 FPS by installing over 5 key commands for user control over settings.

E-Banking System

Apr 2021

- Amplified security, reliability, and scalability of banking functions by 50% by delivering a scalable E-Banking System through building a **full-stack** application with React.js, **Spring Boot**, **Java**, Hibernate, Maven, embedding MySQL, applying JWT authorization, efficient processing with Java 8 streams, global exception handling, and deploying on AWS for high availability and seamless performance.

EDUCATION

MSc Artificial Intelligence

University of Galway, Ireland

Sep 2023 - Sep 2024

Grade: 1:1

Modules: NLP, DL, ML, Programming and Tools for AI, Optimisation, Agents and Reinforcement Learning, Information Retrieval, Image Processing, AI and Ethics, Knowledge Graph, Web and Network Science.

Postgraduate diploma in Advanced Computing (PG-DAC)

CDAC, India

Sep 2020 - Apr 2021

Grade: A

B.E. in Computer Science & Engineering

PRMIT&R, India

Jun 2016 - May 2020

Grade 1:1

CERTIFICATIONS & AWARDS

- **Google Cloud (GCP) Professional Machine Learning Engineer Certification(2024)** ([Link](#))
- Employability Award by University of Galway (2024) ([Link](#))