

AAKASH PRIYADARSHI

SENIOR SOFTWARE DEVELOPER & AI SPECIALIST

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Professional Profile

A versatile Full Stack Developer, Data Engineer, Data Scientist and AI/ML Engineer with 4+ years of experience in building scalable, efficient web applications and deploying advanced AI/ML solutions. Proficient in modern frameworks like Vue.js, React.js, Node.js, Go Lang, and Django, combined with deep expertise in AI frameworks such as TensorFlow, PyTorch, and Hugging Face. Adept at designing end-to-end solutions that leverage both full-stack development and AI-driven innovations to solve complex business challenges. Passionate about delivering high-quality, maintainable code and scaling applications for global impact. Proficient in writing SQL queries, including CTEs, UDFs, Views, and Stored Procedures. Also experienced in designing and implementing scalable blockchain protocols, decentralized applications, and custom blockchain nodes. Proficient in Rust and the Substrate framework.


Competencies

Full Stack Development: Django, Flask, REST APIs, MySQL, Docker, Kubernetes, AWS (EC2, S3, RDS, Lambda), GCP (BigQuery, Cloud Storage), CI/CD (Jenkins, GitHub Actions), Redis, WebSocket. Bootstrap, Responsive Design, Cross-Browser Compatibility, Microservices Architecture, SOAP APIs, C#, ASP.NET, MVC Framework, Entity Framework, Vue.js, Tailwind CSS, PHP.

AI/ML Development: TensorFlow, PyTorch, Scikit-learn, Hugging Face, GPT-3/4, RAG Pipelines, OpenCV, Pandas, NumPy, MLOps (FastAPI, Docker, Kubernetes), Fine-Tuning (LoRA), Transformer Models, Recommendation Systems, ETL Pipelines, Snowflake, Apache Spark, FastAPI, MLflow, Azure.

Tools: Linux, Windows, Git, Jira, Selenium, Cypress, Postman, Apache Kafka, Airflow, Power BI, Craft CMS.

Relevant Career Chronology

 **Senior Software Developer & Technical Lead** 04/2021 – 08/2023
Bihari Construction & Infra Private Limited • New Delhi, India

KEY ACHIEVEMENTS


- Directed massive AI innovation campaign by creating and implementing patented changes, accomplishing 40% reduction in technical debt by leading 5 teams to overhaul legacy systems to enhance scalability and reliability
- Liaised with media channels to encourage public attention, simplifying the complex to gain increased positive engagement while communicating the benefits of AI innovations
- Boosted system efficiency by 20% by integrating ML algorithms (including OpenCV) into MERN stack-based ERP system to improve the quality of service and operational efficiency of parking management systems

RESPONSIBILITIES

- Adapted technologies that included Next.js, GraphQL, Node.js, NoSQL, React.js, MongoDB and PostgreSQL to develop effective ERP technical solutions and deployed **microservices architecture** for scalable ERP solutions.
- Ensured real-time data processing and integration by developing and maintaining data pipelines, utilising **Apache-Kafka** to empower code integrity.
- Leveraged **PySpark** for distributed data processing, allowing greater capacity and efficient handling of large-scale datasets for an increase in operational efficiency.
- Executed Kubernetes for containerization and orchestration to ensure consistent and scalable deployment environments to empower technical leadership. Utilized **MLOps tools (Docker, FastAPI)** for seamless deployment of AI-powered models.

Extended Career Chronology

 **Computer Science Professor** • *Wirral Met College • Birkenhead, UK* 09/2024 – Current

 **Teaching Assistant** • *University of Liverpool • Liverpool, UK* 09/2023 – 12/2024

Education

Master of Science—Computer Science – (Distinction)

2023 – 2024

University of Liverpool • Liverpool, UK

NOTABLE MODULES

- Scored an 86.68 on COMP-517 Programming Fundamentals and scored Distinction Marks as top 8 students in class.

Bachelor of Technology—Electronics & Instrumentation Engineering – (Merit)

2016 – 2020

Galgotias College of Engineering and Technology • Greater Noida, India

Projects

1. Dark Matter Mapping AI model – personal research project:

Developed a deep learning pipeline for cosmic shear analysis using **Python**, **PyTorch**, and **Vision Transformers (ViT)**. Designed custom preprocessing algorithms to handle telescope artifacts and complex noise patterns. Utilized **NumPy**, **SciPy**, and **AstroPy** for image processing and data analysis. Developed frontend with **ES6**, **HTML 5**, **CSS 3**, **TypeScript** & **Next.js**. Used OpenGL to render 3D models of dark matter maps and visualize gravitational lensing effects in an interactive 3D environment.

2. Machine Learning Model to Forecast Company Stock Prices using LSTM Model :

Implemented stock price forecasting using **Facebook Prophet Model** and **Linear Regression** with **Python**, **NumPy**, and **Pandas**. Utilized **Azure AutoML** for model selection and trained machine learning models on historical stock data. Developed the backend with **Node.js** and integrated financial APIs for real-time analysis. Used **C++**, **C#** and **ASP.NET**.

3. Chatbot for Contextual Customer Interaction using GPT Fine-tuning

Built a real-time chat system with **Socket.IO** and semantic search capabilities using **Hugging Face Models** and **Pinecone**. Integrated OpenAI's GPT-3.5 for intelligent, context-aware responses, reducing data retrieval time by 40%. Leveraged **Python**, **Node.js**, and **vector similarity search** technologies. Optimize semantic search services with **Go Lang** fast execution, reducing response times for NLP model queries.

4. AI Car Parking Management System

Built an AI-powered parking management system with **React.js**, **Node.js**, **Express.js**, and **WebSockets** for real-time slot updates. Developed predictive parking allocation models using **Python**, **Scikit-learn**, and **TensorFlow**, reducing search times by 30%. Designed an interactive front-end with **Material-UI** and implemented robust back-end APIs for seamless user experience.

5. Hind, WebRTC Platform

Built a scalable video conferencing app for up to 100 users using **React Native** and **JavaScript ES6**, ensuring cross-platform compatibility. Integrated WebRTC for real-time video streaming, resulting in a feature-rich conferencing platform with smooth user experiences. Developed the **Android version** of the platform using **Java** and **Kotlin**. Used **Power BI** to Monitoring app usage and system performance.

Awards & Qualifications

- Extra Course Certification in AI & Other Technologies
- Microsoft Certified: Azure AI Fundamentals
- Media Coverages – Media coverages of my projects, like interviews and newspaper headlines.
- DRDO Patent Letter – My Patent was shortlisted by DRDO for military use.

Patent and Publication

- Patent - ARTIFICIAL INTELLIGENCE INTEGRATED ROBOTIC MILITARY SUIT
- Patent - USER INTERACTION ASSISTIVE LEARNING EDUCATIONAL CONTENT GENERATION AI PLATFORM
- Patent - INDUSTRIAL LOAD LIFTING ROBOTICS ARM EXOSUIT
- Publication - Multimodal Cross-Modal Transfer Learning for Low-Resource Language Processing: A Framework for Leveraging Speech Data
- Publication - Deep Learning Innovations in Automated Breast Cancer Detection with Integrated Ultrasound Datasets