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## **PERSONAL DETAILS:**

Name
 Ajeet Kumar Verma

Designation Lead AI Engineer, Data Scientist

### **CONTACTS:**

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#### **PROFESSIONAL SUMMARY:**

Al professional with 10 years of experience in the IT industry. I specialize in designing and deploying **robust**, **scalable**, and **production-grade Al solutions**. My expertise spans Data Science, Machine Learning (ML), Recommendation Systems, Computer Vision (CV), Natural Language Processing (NLP), and Generative AI (Agentic AI). I have worked in multiple roles, including Machine Learning Engineer, Python Developer, Data Engineer, Senior Software Engineer, and AI Engineer. This diverse background gives me full-stack proficiency across data, models, and systems.

In addition to technical delivery, I bring strong project management and business analysis skills. These help me connect with both technical and non-technical audiences, driving impactful end-to-end AI initiatives.

As an Indian expatriate currently working in Vietnam, I bring valuable international experience and adaptability in diverse environments.

Legally authorized to work in Vietnam without employer sponsorship (eligible under government provisions for spouses of Vietnamese citizens).

# **Key Highlights**:

- Expertise in Agentic Al solutions, integrating LLMs and multi-agent orchestration for autonomous reasoning, planning, and action.
- Hands-on proficiency with Python, Deep Learning frameworks, and Web Scraping.
- Extensive experience in ETL development, NLP, CV, and ML pipeline building.
- Practical knowledge of **predictive and prescriptive analytics**, including ML algorithms.
- Hands-on experience with Docker, microservice architecture, and API framework development.

- Skilled in Scrum/Agile frameworks and experienced in cross-functional team collaboration.
- Proficient in processing diverse data formats, including video, image, and text data.
- Experience integrating applications with third-party web services and APIs.
- Known for a proactive, cooperative approach and a strong commitment to organizational success.

## **EDUCATIONAL BACKGROUND:**

- Post Graduate Diploma in Machine Learning and Artificial Intelligence, IIIT Bangalore, India.
- Bachelor of Technology in Electrical Engineering (Hons), Rajasthan Technical University, Kota, India.

### **TRAINING & CERTIFICATIONS:**

- AWS Cloud Technology Consultant by Coursera
- Al Product Manager Nanodegree by Udacity
- Generative AI Nanodegree by Udacity
- Generative AI with Diffusion Models by NVIDIA
- Generative AI with Large Language Models by Coursera
- Machine Learning DevOps Engineer Nanodegree by Udacity
- Generative Adversarial Networks (GANs) by Coursera
- <u>Data Scientist Nanodegree</u> by Udacity
- Computer Vision Nanodegree by Udacity
- Microsoft Certified <u>Azure AI Engineer Associate</u>
- Professional Certification in Project Management by Google
- <u>TensorFlow Developer</u> Professional Certification by DeepLearning.Al
- <u>Data Analysis Using PySpark by Coursera</u>
- Specialized Models: Time Series and Survival by Coursera
- Data Engineering and Machine Learning using Spark by IBM
- Docker Essentials by IBM
- Hands-On Introduction to Apache Airflow by Udemy
- Version Control with Git by Atlassian
- Agile with Atlassian Jira
- OPIc level IM (Korean) issued by <u>ACTFL</u>

### **TECHNICAL EXPERTISE & SKILLS:**

- **Programming:** Python, R, Ruby
- Database: MySQL, MongoDB, Elastic Search
- Web scraping: Scrapy, Selenium, Beautiful Soup, Requests, Lxml, etc.
- Machine learning/deep learning framework: Scikit-learn, TensorFlow, Keras, PyTorch
- Version control tools: Git, Gitlab, Bitbucket
- Data analytics and processing tools: NumPy, SciPy, Pandas, Polars, PySpark

- Data Visualization tools: Matplotlib, Seaborn, Plotly, Kibana
- AI/ML Application UI Framework: Streamlit, Dash Gradio, Flet
- Image processing tools: OpenCV, PIL, Scikit-Image
- DevOps tools: Docker, Terraform, Kubernetes
- MLOps tools: mlflow
- CI/CD tools: GitHub Actions, GitLab CI/CD
- Restful API, FastAPI, Flask, Regex, Apache Spark, Apache Airflow, Elastic Stack (EFK), Databricks Mosaic AI,
   Microsoft, Power Automate, Copilot Studio, Azure AI Foundry, n8n
- Computer Vision, Recommendation System, Natural Language Processing (NLP), Optical Character Recognition (OCR), and Time-Series Analysis (Statsmodels).
- Generative AI, Large Language Models, LangChain, LangGraph, LlamaIndex, CrewAI, Agno, Ollama, Hugging Face, Vector Stores, Vector Embedding, Prompt Engineering, RAGs, Agents, MCP Protocol, A2A Protocol, Pydantic AI, etc.
- Cloud Platforms: AWS, Azure, Google Cloud

### **LANGUAGE SKILLS:**

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- Fluent in **English**
- Intermediate in Korean
- Native in Hindi
- Elementary in Vietnamese

#### **ACHIEVEMENTS:**

- Won a Gold medal in the "LTS x AIC Hanoi LLM Hackathon 2023" GenAl hackathon organized in collaboration with FSOFT and LTI Japan.
- Received the Excellent Performance Award from the Covestro Al customer.

## **PROFESSIONAL EXPERIENCE:**

Project: <b>CoVA</b> in <b>FPT Software</b> , Hanoi, Vietnam.	
Duration	Dec 2024 - Present
Position	Lead AI Engineer
Team size	15
Description	CoVA is an Agentic AI platform designed to autonomously perform complex multi-step business tasks by combining natural language understanding, reasoning, and action execution. The platform

	leverages multi-agent orchestration, LLMs, and Generative AI to interact with data sources, perform decision-making, automate workflows, and provide actionable insights. It aims to reduce manual effort, improve decision quality, and accelerate business processes through intelligent automation.
Responsibilities	<ul> <li>Lead the architecture and development of an end-to-end Agentic AI system, ensuring robustness, scalability, and production readiness.</li> <li>Design and implement multi-agent workflows that integrate LLMs for reasoning, planning, and task execution.</li> <li>Oversee knowledge ingestion, vector indexing, and retrieval mechanisms to ensure accurate and context-aware responses.</li> <li>Optimize prompt engineering and generation strategies to enhance the coherence and accuracy of AI outputs.</li> <li>Collaborate with cross-functional teams to align CoVA development with strategic business objectives.</li> <li>Research and integrate cutting-edge LLM and GenAI techniques to maintain a competitive and innovative system.</li> <li>Monitor system performance, manage deployment pipelines, and ensure scalable, maintainable, and secure production operations.</li> </ul>
Technologies	Python, Large Language Models (LLMs), LangChain, LangGraph, RAG, Multi-Agent Orchestration, Vector Stores & Embeddings, Docker, AWS, Streamlit, MLflow, GitLab, and API Frameworks

Project: Procure	Project: <b>ProcureBot (Covestro AI)</b> in <b>FPT Software,</b> Hanoi, Vietnam.	
Duration	Feb 2024 - Nov 2024	
Position	Lead AI Engineer	
Team size	10	
Description	ProcureBot is an AI-powered virtual assistant designed to assist with procurement-related inquiries and tasks. ProcureBot leverages natural language processing and GenAI to understand and respond to user queries, provide information about products and services, assist with order placement, track orders, and offer support throughout the procurement process. It aims to streamline and simplify the procurement experience for Covestro's customers by providing quick and accurate responses to their inquiries.	
Responsibilities	<ul> <li>Understand and capture the key business requirements of the Stakeholder/client.</li> <li>Architect and oversee an end-to-end RAG system that ingests and indexes the knowledge base.</li> <li>Enhance the generation aspect of the RAG system to produce more accurate and coherent responses.</li> <li>Stay informed about the latest developments in LLMs and GenAI tech. Look for new ideas and improvements to stay ahead of the curve.</li> </ul>	

	<ul> <li>Work on improving the efficiency and effectiveness of the retrieval component of the RAG system.</li> <li>Collaborating with cross-functional teams to align the ProcureBot's development roadmap with Covestro's strategic objectives and business priorities.</li> <li>Craft and optimize prompts to maximize the performance and accuracy of large language models (LLMs) and agents.</li> <li>Designing, implementing, and optimizing multi-agent systems using LLMs and GenAI technologies.</li> </ul>
Technologies	Python, Large Language Models, RAG, AWS, LangChain, Streamlit, GitLab, Vector Store, and Embeddings, mlflow

Project: ICon (Co	Project: ICon (Covestro AI) in <u>FPT Software</u> , Hanoi, Vietnam.	
Duration	July 2023 - Jan 2024	
Position	Senior AI Engineer	
Team size	09	
Description	The primary objective of the ICon project is to develop a robust and user-friendly platform that provides natural language-based access to Covestro's business data, with a focus on Sales data sourced from SAP BW. The platform enables users to interact using natural language, generate descriptive data reports, and enhance decision-making by providing timely and accurate business insights.	
Responsibilities	<ul> <li>Undertake extensive research to identify the most appropriate AI algorithms and tools for the project, implement them effectively, and optimize their performance to achieve the desired outcomes.</li> <li>Understand and capture the key business requirements of the Stakeholder/client.</li> <li>Collaborate closely with cross-functional teams, including data engineers, data scientists, software developers, and business stakeholders, to align the AI components with overall project goals and objectives.</li> <li>Stay updated with the latest developments in LLMs and conversational AI technologies. Explore innovative solutions and enhancements to keep the project at the forefront of industry standards.</li> <li>Model Selection and Configuration.</li> <li>Large Language Models Fine-tuning and Training.</li> </ul>	
Technologies	Python, Large Language Models, MySQL, AWS, LangChain, GitLab, Streamlit	

Project: AkaCam	Project: <b>AkaCam</b> in <b>FPT Software</b> , Quy Nhon, Vietnam.	
Duration	May 2022 - June 2023	
Position	Senior AI Engineer	
Team size	19	
Description	AkaCam is an Al-powered project that intelligently analyzes human behavior using image data. The system incorporates models for object detection and object classification, enabling accurate recognition of people and objects in visual scenes. It also implements object tracking to monitor movements across frames and object re-identification to recognize individuals across different cameras or sessions. This combination of Al techniques allows AkaCam to generate actionable insights into human behavior patterns.	
Responsibilities	<ul> <li>Undertake extensive research to identify the most appropriate AI algorithms and tools for the project, implement them effectively, and optimize their performance to achieve the desired outcomes.</li> <li>Understand and capture the key business requirements of the Stakeholder/client.</li> <li>Conduct a thorough examination of the current code base to gain a comprehensive understanding of the system's architecture, design patterns, and programming practices.</li> <li>Enhance the overall system performance by refactoring the AI services, which involves optimizing code, improving algorithms, and addressing any technical debt.</li> <li>Tailor the existing packages to meet specific client requirements by implementing new features, customizing existing functionalities, and integrating additional logic as necessary.</li> <li>Ensure that the software is efficient, maintainable, and scalable by adhering to software engineering best practices, such as modularization, documentation, and testing.</li> <li>Collaborate with cross-functional teams, including product managers, software developers, and quality assurance engineers, to ensure that the AI services meet the product's requirements and specifications.</li> <li>Continuously monitor and evaluate the system's performance, identify any bottlenecks or issues, and implement necessary changes to optimize performance and improve the user experience.</li> </ul>	
Technologies	Python, Deep learning algorithms, Data processing, Data Visualization, Computer Vision	

Project: <b>GoToro</b> in <b>FPT Software</b> , Quy Nhon, Vietnam.	
Duration	Nov 2021 - June 2022
Position	Machine Learning Engineer
Team size	26

Description	Build an Intelligent Job portal self-managed service for GoToro Clients. The goal is to help high-volume recruitment industries accelerate the hiring processes and increase the efficiency of recruitment campaigns by infusing Analytics and Artificial intelligence.
Responsibilities	<ul> <li>Engage with the Stakeholders and clients to understand and capture the business goals and translate business problems into an analytical framework.</li> <li>Research and implement appropriate ML algorithms and tools.</li> <li>Select appropriate datasets and data representation methods and build the ETL pipeline.</li> <li>Collaborate and share knowledge with team members, peers, and leadership to foster a community-focused, high-performing work environment.</li> <li>Implement the time-series ML algorithm for bidding forecast and budget allocation to the publishers on the job boards.</li> </ul>
Technologies	Python, ML algorithms, Data processing, Data visualization, Git, MySQL, MongoDB, Time-series Analysis

Project: Smart Grid in <u>Viettel</u> , Hanoi, Vietnam.	
Duration	October 2020 - October 2021
Position	AI (Computer Vision) Engineer
Team size	14
Description	The project aimed to automate the manual inspection process of telecom sub-station equipment, including checking, monitoring, and reporting the quality of various components. The goal was to improve efficiency, accuracy, and consistency using Al-based solutions.  Design deep Learning models for visual recognition tasks, including object classification, detection, and segmentation.  Implemented Optical Character Recognition (OCR) to extract and process text from equipment labels and documents.  Designed the solution to enable end-to-end automated inspection, reducing manual effort and improving operational reliability.
Responsibilities	<ul> <li>Training machine learning and deep learning models to perform visual recognition tasks, such as classification, segmentation, and detection.</li> <li>Optimizing deep neural networks and the related preprocessing/post-processing code.</li> <li>Reading research papers, implementation, and their incorporation into the existing ecosystem.</li> <li>Responsible for automation of manual inspection tasks such as equipment validation, fault detection, structural abnormalities, and anomaly detection using deep learning.</li> <li>Work on computer vision algorithms and image processing, including rule-based image processing techniques and deep learning-based algorithms.</li> </ul>

	<ul> <li>Utilize annotation tools for accurately annotating images and videos for tasks such as object detection, segmentation, and classification.</li> <li>Design and develop a dashboard for AI service log monitoring and analysis utilizing the EFK Stack.</li> <li>Create the entire ETL pipeline for ingesting, transforming, and loading logs into the dashboard.</li> <li>Responsible for creating different visualizations to analyze and monitor the logs to derive business value efficiently.</li> <li>Implement the role-based access control for the logging stack.</li> <li>Responsible for developing and deploying the Pipeline.</li> </ul>
Technologies	Python, PyTorch, Machine Learning, Deep Learning, Computer Vision, Image Processing, Docker, OpenCV, FastAPI, OCR, Recommendation System, Ruby, Elasticsearch, Fluentd, Kibana, Data Processing

Project: Viavi in Altran (Capgemini Engineering), Gurugram, India.	
Duration	June 2020 - October 2020
Position	Senior Software Engineer
Team size	12
Description	Maintain, customize, and improve the automation framework for network test and measurement, network assurance, and optical solutions.
Responsibilities	<ul> <li>Communicate and understand the business requirements with customers.</li> <li>Review the existing code base and refactor or optimize for better performance.</li> <li>Develop automation scripts for 4G and 5G network device testing and monitoring.</li> </ul>
Technologies	Python, RESTful API, Flask, MySQL, PyTest, Git

Project: Innowatts in Accolite Digital, Gurugram, India.	
Duration	September 2019 - March 2020
Position	Technical Consultant, Data Engineer
Team size	21
Description	Innowatts' SaaS platform transforms how energy providers understand and serve their customers.  Using AI and learnings from more than 45 million global meters to help energy retailers, utilities,

	and grid operators unlock meter-level data, understand their customers, and make business processes automated and intelligent.
Responsibilities	<ul> <li>Engage with clients to gather requirements and provide them with solutions that are tailored to their specific needs and that meet their expectations.</li> <li>Automating the data pipelines with Airflow.</li> <li>Workflow Orchestration using directed acyclic graphs (DAGs) to coordinate tasks and dependencies.</li> <li>Responsible for creating maintainable, versioned, testable, and configurable DAGs.</li> <li>Coordinate with internal teams to understand client requirements and provide technical solutions.</li> <li>Create logic for Data processing and computations.</li> <li>Extracts the data from different RDBMS source systems, then transforms the data (like applying calculations, concatenations, etc.), and finally loads the data into the Data Warehouse system.</li> </ul>
Technologies	Python, AWS (S3, Athena, EMR), Apache Airflow, Git, MySQL, PySpark

Project: WebMine in SecNinjaz Technologies LLP, India.		
Duration	January 2018 - September 2019	
Position	Python Developer	
Team size	19	
Description	WebMine is a revolutionary & state-of-the-art OSINT (Open-source intelligence) -based product utilizing AI & ML to produce virtual Intelligence and gather information from diverse sources, including search engines, social media platforms, the dark web, etc.	
Responsibilities	<ul> <li>Responsible for developing several microservice architectures.</li> <li>Responsible for gathering data from various platforms (social media, search engines, etc.) through either APIs or web scraping and creating APIs to integrate with the existing micro-services.</li> <li>Build reusable code and libraries for future use.</li> <li>Focus on test-driven development and create code reviews.</li> <li>Run and monitor performance tests on new and existing software to correct mistakes, isolate areas for improvement, and debug.</li> <li>Identify, leverage, and successfully evangelize opportunities to improve engineering productivity.</li> <li>Collaboration with team members to establish back-end conventions, principles, and patterns.</li> <li>Performs technical analysis for the development of new features.</li> </ul>	

Technologies	Python, Selenium, Docker, MongoDB, MySQL, Flask, Git, Restful API, PyTest, Scrapy, Elasticsearch,
	Kibana, Beautiful Soup, Requests, Urllib3, Regex, GitLab CI/CD

Project: Forsk in Seedlogix Resources India Pvt. Ltd, Jaipur, India.		
Duration	July 2015 - December 2017	
Position	Machine Learning Trainer, Python Developer	
Team size	08	
Description	Forsk, with a mission to empower people with top-quality educational programs in the domain of software engineering and information technology, helps university students fill the industry gap by improving skills in coding and computer science fundamentals and securing quality careers in the industry.	
Responsibilities	<ul> <li>Responsible for developing and delivering lectures, workshops, and other learning materials on a variety of topics related to ML and Python.</li> <li>Responsible for designing and implementing assessments and other activities to help students learn and apply their knowledge.</li> <li>Involved in creating quizzes, exams, projects, and other assignments, as well as providing feedback and support to students.</li> <li>Research and work on data science and machine learning projects.</li> <li>Study and transform data science prototypes.</li> <li>Research and implement appropriate ML algorithms and tools.</li> <li>Select appropriate datasets and data representation methods.</li> <li>Run machine learning tests and experiments.</li> <li>Perform statistical analysis and fine-tuning using test results.</li> <li>Stay up-to-date on the latest developments in the field and adapt the teaching materials and approaches to reflect these developments.</li> </ul>	
Technologies	Python, Machine Learning Algorithms, TensorFlow, MySQL, Flask, Git, HTML, CSS, C, C++, Restful API, Web scraping, OpenCV, Image processing, Data processing	