Aviraj Kawade

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Education

IIT Ropar — *Ropar, Punjab*
Minor in Artificial Intelligence (AI-driven technologies) — *Sep 2024 – Jul 2025*

Dr. D. Y. Patil Arts, Commerce, Science, College — *Pimpri, Pune*
Bachelor of Computer Application (Science) — *June 2021 – May 2024*

Maharaja Jivajirao Shinde Mahavidyalaya — *Shrigonda, Ahilyanagar*
Higher Secondary Certificate — *June 2019 – April 2021*

Experience

DevOps Engineer — **Feb 2025 – Present**
Perforce Software Inc — *Projects – Confidential*

- **AI-Driven Multi-Cloud Cost Optimization:** Key contributor to the design and development of an internal FinOps platform aggregating cloud cost data from multiple providers into a centralized dashboard. Led backend development in Python and automated infrastructure with Terraform. Spearheading AI-driven predictive cost analysis and anomaly detection, optimizing cloud spend and resource efficiency.
- **Terraform Abstraction and Automation:** Core team member in designing an advanced Terraform abstraction layer, simplifying multi-cloud infrastructure provisioning. Enhanced automation, governance, and developer experience by introducing modular reusable components and policy-driven deployments, streamlining cloud operations.
- **Infrastructure as Code (IaC) Excellence:** Played a pivotal role in automating and standardizing infrastructure deployment using Terraform and AWS CloudFormation, ensuring high availability, and scalability across cloud environments.

Site Reliability Engineer (SRE) And Software Engineer — **Jan. 2024 – Jan 2025**
STARMAKER Interactive Private Limited — *Project Name – RoxStar*

- **CI/CD Automation:** Designed and implemented a fully automated CI/CD pipeline using Jenkins and AWS CodePipeline, significantly reducing manual intervention, improving deployment efficiency, and decreasing release time.
- **Kubernetes (K8s):** Managed Kubernetes clusters for deploying and orchestrating microservices in development, staging, and production environments, ensuring high scalability and reliability.
- **Monitoring And Observability:** Integrated Prometheus for metrics collection and Grafana for real-time monitoring and alerting, ensuring optimal system health and proactive issue resolution.
- **Infrastructure as Code (IaC):** Automated infrastructure provisioning using Terraform and AWS CloudFormation, ensuring scalability, repeatability, and efficient resource management.

Microsoft Future Ready Talent Intern — **Sep. 2023 – Dec. 2023**
Microsoft Corporation — ***Project Name – Alaska***

- **Azure CI/CD Deployment:** Deployed a fully functional website using Azure DevOps, integrating CI/CD pipelines to automate build and deployment processes.
- **Chatbot Creation:** Designed and implemented a chatbot using Azure Bot Services, enhancing user query response times by 15% and improving customer engagement.
- **Azure OpenAI Integration:** Leveraged Azure OpenAI services to develop intelligent, context-aware conversational models, enhancing user interaction and experience.
- **Kubernetes with AKS:** Set up and managed multi-node AKS (Azure Kubernetes Service) clusters to ensure reliable and scalable containerized application deployments.

Projects

Highway Guard *Python, PyTorch, PyCharm, AWS, Machine Learning* **Jan. 2023 – Present**

- **AI-Powered Detection:** Revolutionizes highway cleanliness with real-time waste detection using advanced AI technology, identifying litter like plastic bottles, coffee cups, and beer bottles thrown from vehicles.
- **Clean India Mission Support:** Directly contributes to India's Clean India Mission by encouraging responsible waste management practices and reducing roadside litter.
- **Object Detection with YOLO:** Utilized the YOLOv5 model for real-time object detection, achieving high accuracy in identifying waste items under various conditions.
- **Cloud Integration:** Leveraged AWS services such as S3 for storing training datasets, Lambda for serverless operations, and EC2 for model training and deployment, ensuring scalability and cost efficiency.
- **Edge Computing:** Deployed trained models on edge devices like Raspberry Pi and NVIDIA Jetson Nano for real-time waste detection in highway settings.
- **Fine System Implementation:** Integrated a system to identify vehicle registration numbers from video footage and automatically issue fines to violators, promoting accountability.
- **Data Pipeline Development:** Built an end-to-end data pipeline for preprocessing, model training, and deployment, ensuring continuous improvement of the AI model with new data.
- **Stakeholder Collaboration:** Collaborated with government and private stakeholders to implement the solution in pilot projects and plan nationwide scalability.
- **Monitoring and Reporting:** Developed dashboards for real-time monitoring of waste detection activities and automated reporting for stakeholders using Grafana and Python libraries.
- **Environmental Impact:** Significantly improved cleanliness in pilot testing areas, leading to positive environmental and social outcomes.

Professional Skills

Passionate AI/ML Innovator and Problem Solver with Experience in Developing Advanced AI Applications

- **Languages and Frameworks:**
  - Python, PHP, SQL, MongoDB
  - PyTorch, TensorFlow
  - NumPy, Pandas
- **Tools and Technologies:**
  - Docker, Kubernetes, Jenkins
  - AWS, Terraform, Ansible
  - Grafana, k6, Azure ML, Google Cloud AI
- **Developer Tools:**
  - VS Code, PyCharm
  - CI/CD Pipelines, Linux
- **AI/ML Expertise:**
  - Built and trained deep learning models for projects using PyTorch and TensorFlow
  - Implemented machine learning algorithms for predictive analytics and classification tasks
- **Model Deployment:**
  - Deployed trained AI/ML models to production environments using Docker and Kubernetes
  - Ensured scalability and reliability during production deployments
- **Load Testing and Metrics:**
  - Conducted comprehensive load testing for applications using k6
  - Implemented real-time monitoring and metrics visualization using Grafana and Prometheus
- **Additional Contributions:**
  - Developed scalable solutions with a focus on enhancing performance, reliability, and automation