Atharva Subhash Patkar

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Objective

To work in an environment which encourages me to succeed and grow professionally where I can utilize my skills and knowledge appropriately.

Academic Details

Year	Degree	Institute	GPA/percentage
2019-2023	B.Tech	Kitcoek,Kolhapur	7.88/10
2019	HSC	G.A.college,Sangli	71.57
2017	SSC	G.A.Highschool,Sangli	86.80

Technical Skills

- **Languages**: Python 3, C, C++.
- **DevOps Tools**: Terraform, Docker, Kubernetes, Ansible, Jenkins, Git and GitHub, Prometheus and Grafana.
- **Data Science**: Machine learning, Deep Learning, Computer Vision, NLP, Prompt design, Fine tuning, LoRA,QLoRA,Pytorch,Tensorflow, Generative AI,RAG
- **Web Dev**: HTML, CSS, JS, Flask ,Fastapi, Bootstrap
- **Cloud Platforms**: AWS
- **Databases**: MySQL
- **Operating systems**: Linux

Internship/work experience

Eiminence Institute, Sangli (Feb,2024 – Dec,2024**):**
Successfully completed an internship in DevOps and MLOps, gaining hands-on experience with cloud platforms as well.
Role: MLOps Intern

- **Cloud platform** :AWS
- **DevOps**: Implemented and optimized **CI/CD** pipelines using tools like **Docker, Kubernetes, Jenkins, ansible, Terraform**. Automated deployment processes, reducing deployment time by 30% and enhancing system reliability.
- **MLOps**: Integrated machine learning workflows into production environments using **Mlflow** and **Kubeflow**. Streamlined model development, deployment, and monitoring for increased efficiency and scalability.

Projects

Cloud Infrastructure Automation with Face Detection (Apr,2024 – May,2024)

- Developed a **face detection** model with over 85% accuracy to authenticate users and automate infrastructure provisioning.
- Written a **Terraform** script to launch **AWS EC2** instances and attach **EBS** volumes upon user identification.
- Enhanced security for larger projects by integrating **facial recognition** as a prerequisite for infrastructure automation.
- This approach can also be applied to larger projects to enhance security, with the capability to send email and WhatsApp notifications to users.

Tech used: Face detection model (Haar-cascade), terraform, AWS

Logo Maker Using LLM (May,2024 – June,2024)

- Created an AI-powered logo generation tool leveraging **Large Language Models** (LLMs) to transform text prompts into visually compelling logos, with dynamic customization options for style, color, and themes to meet industry-specific branding needs.
- Optimized performance through advanced **prompt engineering techniques**, enhancing the precision and relevance of generated designs to align with user expectations.
- Engineered a containerized architecture using Docker and automated **CI/CD pipelines** with **Jenkins** and **GitHub webhooks**, ensuring seamless scalability, portability, and efficient deployment across diverse environments.
- Streamlined workflows by automating the logo creation process, enabling businesses and individuals to achieve professional-grade designs rapidly and cost-effectively.

Technologies used :LLm model, docker, Kubernetes, Jenkins, fastapi

Multimodal RAG Chatbot (June,2024 – Aug,2024)

- Planned and executed a project to **fine**-**tune** a Large Language Model (LLM) for enhanced performance in domain-specific tasks.
- Applied transfer learning to adapt the base model to custom datasets, improving accuracy and contextual relevance.
- Utilized Hugging Face Transformers and **PyTorch** for seamless model fine-tuning and evaluation.
- Used grounding technique to fetch internet links and context, youtube videos to do it multimodal output
- Upgraded deployment by containerizing the model with Docker and **orchestrating scalable deployments** using Kubernetes, integrating MLOps tools to automate workflows and ensure robust model lifecycle management.

Tools used: LLM model, docker, Kubernetes, RAG, Faiss vectorDB

Constructed Infrastructure for AI application :(Sept,2024 – Nov,2024**):**

- Designed and implemented scalable infrastructure using AWS **EC2** for hosting applications and Docker for containerization.
- Orchestrated deployments with **Kubernetes** and automated event-driven scaling using **KEDA**.
- Integrated AWS **SQS** for message queuing and decoupling microservices.
- Built secure, high-performance APIs with AWS **API Gateway**, ensuring seamless communication between components.
- Leveraged CI/CD pipelines for efficient deployments and monitored infrastructure using CloudWatch and **Prometheus**. Streamlined workflows to optimize resource utilization, enhance application scalability, and ensure high availability across production environments.

Components: Ec2 instance, docker container, Kubernetes(KEDA), Aws sqs, AWS Api gateway**,**prometheus

Extracurricular Activities/Achievements

- **CESSA club** :
  Conducted coding workshops and mentoring sessions to support junior students in improving their programming skills.Collaborated with external organizations for guest lectures and coding events, helping expand the club's outreach and knowledge-sharing initiatives.
- **Accenture North America Data Analytics and Visualization Job Simulation on Forage - June 2024**:
  Completed a simulation focused on advising a hypothetical social media client as a Data Analyst at Accenture. **Cleaned**, **modelled and analyzed 7 datasets** to uncover insights into content trends to inform strategic decisions.
  Prepared a PowerPoint deck and video presentation to communicate key insights for the client and internal stakeholders.
- Awarded as '**Ideal student** of the year 2016-2017' .