**ANURAG KALAPALA**

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**SUMMARY**

Highly motivated **Junior Software Engineer** with a solid foundation in **web development**, **DevOps practices**, and a proven ability to build and deploy scalable applications. Eager to apply academic knowledge and practical project experience in **Python**, **Docker**, **FastAPI**, and **AWS** to contribute to innovative cybersecurity solutions. A collaborative team player with a passion for learning new technologies and a strong interest in offensive security and cutting-edge **software development**.

**EDUCATION**

**MS in Computer Science** | University of Massachusetts Lowell                                                     Jan 2023 - May 2024

* **Coursework:** Computer Vision, NLP, Data Mining, Machine Learning, Deep Learning (focused on software application)

**BE in Electronics and Communication** | Chaitanya Bharathi Institute of Technology         June 2018 – May 2022

* **Coursework:** Data Structures, Digital Communications, Signal Processing, Statistics

**PROFESSIONAL EXPERIENCE**

**Machine Learning Engineer** | HealthEdge                                                                                 July 2024 - May 2025

* Built predictive models using **Python**, TensorFlow, and scikit-learn, integrated into a clinical support platform.
* Developed a modular **MLOps pipeline** using MLflow for experiment tracking and model versioning, with automated **CI/CD via GitHub Actions** and **AWS CodePipeline**.
* Deployed ML services as containerized microservices (**Docker + FastAPI**) for scalable, low-latency predictions.
* Implemented real-time model monitoring with Prometheus and Grafana, enabling drift detection and performance alerting, demonstrating a strong understanding of **DevOps practices**.

**Graduate Research Assistant** | University of Massachusetts Lowell                                     June 2023 - May 2024

* Developed deep learning models for enterprise text analytics using TensorFlow and PyTorch, focusing on application and integration.
* Fine-tuned BERT and RoBERTa models for domain-specific named entity recognition, reducing error rates by 30% and improving data extraction efficiency.
* Collaborated on interdisciplinary AI applications spanning business analytics and automated content processing, highlighting a team-oriented approach.

**RPA Developer** | Genpact                                                                                            June 2021 – December 2022

* Designed and deployed RPA bots using Automation Anywhere and UiPath for tasks like invoice processing and client onboarding, showcasing workflow automation skills.
* Developed **Python automation scripts** for data analysis and created a COVID-19 trend prediction pipeline, demonstrating **backend development** capabilities.
* Performed social media scraping and sentiment analysis, aiding marketing insights.

**TECHNICAL PROJECTS**

**Enterprise Misinformation Detection Platform** | Python, BERT, NLP, Hugging Face, Docker, FastAPI

* Developed an end-to-end NLP pipeline for classifying 17,500+ articles across six credibility tiers, highlighting a full-stack approach to NLP solutions.
* Fine-tuned BERT/SBERT and deployed as containerized microservices with **FastAPI** and **Docker**, demonstrating strong **web development** and **DevOps** skills.
* Automated data ingestion, model inference, and reporting with **CI/CD integration** and Prometheus alerts.
* Scaled architecture to handle 1,000+ docs/min using cloud-native deployment on **AWS ECS**, showcasing experience with **scalable infrastructure**.

**AI-Powered Visual Classification System** | PyTorch, ResNet-18, Computer Vision, MLflow

* Built a full ML pipeline for dermatoscopic image classification, demonstrating end-to-end software development for ML applications.
* Fine-tuned ResNet-18 (7-class) with augmentation, achieving 83% accuracy; tracked via MLflow.
* Integrated Grad-CAM for interpretability; deployed as **REST API** with model versioning and monitoring, showcasing API development and deployment.
* Implemented **CI/CD** for training and deployment using **GitHub Actions** and **Dockerized workflows**, reinforcing **DevOps practices**.

**TECHNICAL SKILLS**

**Programming Languages:** Python, SQL, Java

**Web Development & APIs:** FastAPI, Flask, RESTful APIs, GraphQL (exposure from related concepts)

**DevOps & Deployment:** Docker, GitHub Actions, CI/CD, AWS (ECS, CodePipeline, SageMaker), Git, GitLab (conceptual understanding from Git), Prometheus, Grafana

**ML & Data Science:** TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, MLflow

**Deep Learning:** CNN, LSTM, Transfer Learning, ResNet, BERT, Transformers, SBERT

**LLMs & GenAI:** LangChain, Hugging Face Transformers, RAG Pipelines, Prompt Engineering, OpenAI APIs (demonstrates eagerness to learn emerging tech)

**NLP:** Hugging Face, SpaCy, TextBlob, NER, Sentiment Analysis, Topic Modeling

**Cloud & Platforms:** AWS, GCP (exposure), Git, GitHub, MongoDB, Tableau, Power BI

**Automation:** UiPath, Automation Anywhere, OCR

**CERTIFICATIONS**

DeepLearning.AI Deep Learning Specialization | TensorFlow Developer Certificate – Google | Generative AI with LLMs – DeepLearning.AI | LangChain for LLM Application Development – DeepLearning.AI | Automation Anywhere RPA Professional Certificate | UiPath RPA Developer Foundation