SHIVAM.
ML Engineer

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Summary
Aspiring Machine Learning Engineer with nearly 3 years of IT experience, seeking to leverage expertise in AI and DevOps to build intelligent, scalable solutions. Skilled in Python, TensorFlow, and Scikit-learn, with expertise in automation, CI/CD, containerization (Docker, Kubernetes), and natural language processing (NLP). Skilled in leveraging IT engineering background to streamline machine learning workflows.

SKILLS

- **Programming Languages & Tools:** Python, SQL, TensorFlow, Scikit-learn, SpaCy, Flask, Git, Bert
- **Machine Learning & AI:** Supervised Learning, Unsupervised Learning, NLP, Deep Learning, PyTorch
- **DevOps & Automation:** Docker, Kubernetes, CI/CD, GitHub Actions, Amazon EKS
- **Database & Infrastructure:** Database Administration, Linux, Cloud (AWS)
- **Soft Skills:** Problem-solving, Team Collaboration, Cross-functional Communication

PROFESSIONAL EXPERIENCE
IT Engineer
Indus Valley Partners — Uttar Pradesh, India
January 2022 – Oct 2024

- Managed installation, configuration, backup, restoration, and optimization of databases such as **MySQL** and MSSQL, leading to a **25% improvement in query response times**.
- Manage and optimize **container deployment** and orchestration using **Amazon EKS**, ensuring scalability and reliability for **Kubernetes applications**.
- Collaborated closely with development and operations teams to streamline **CI/CD processes**, enhancing automation and deployment lifecycles.
- **Designed and developed a custom monitoring system** using Python, which automates reading and categorizing emails for critical/down services, routing them to the appropriate teams. This solution replaced manual intervention, **reducing response time by 77%** and ensuring real-time issue resolution through email alerts.

PROJECTS
Automated Service Monitoring System
July 2024 – September 2024 **GITHUB LINK**

- Developed and deployed a Python-based **email monitoring system** using the **Gmail Library** to automate the detection of critical/down alerts of various production devices.
- Implemented customizable filtering rules via **CSV** file, allowing dynamic selection of emails based on sender and content.
- Designed an alert routing mechanism to send targeted notifications to cross-functional teams, **reducing manual intervention by 77%** and increasing response time to reduce production downtime.
- Streamlined production monitoring by automating email parsing, event categorization, and real-time issue resolution.
- **Technologies:** Python, Gmail, CSV Parsing, Automation
  Impact: Improved response time to incidents by 77%.

Image to Caption Generator
April 2024 – June 2024 **GITHUB LINK**

- Developed and deployed an **AI-powered Image Caption Generator** using the **ResNet-50** model for feature extraction and a **Recurrent Neural Network (RNN)** for caption generation.
- Leveraged **Transfer Learning** with **ResNet-50** for image processing.
- Tuned hyperparameters to improve model performance, and improve caption accuracy by **20% over baseline models.**
- Deployed the model using **AWS EC2** and implemented CI/CD pipelines using **GitHub Actions** for seamless updates.

- **Technologies:** Python, TensorFlow, ResNet-50, RNN, **GRU**, AWS, GitHub Actions, Deep Learning
  Impact: Reduced error rates in generated captions by 20% compared to baseline models.

Text Summarization
September 2023 – February 2024 **GITHUB LINK**

- Developed an automated text summarization tool using **Google Pegasus**, a transformer-based model fine-tuned for abstractive summarization tasks.
- Achieved a **ROUGE-1 score** of 0.85, indicating high relevance between generated summaries and source documents.
- Integrated the model into a production environment using **AWS EC2/ECR** for scalable deployment, with automated CI/CD pipelines for continuous updates.
- **Technologies:** Python, TensorFlow, Google Pegasus, AWS, NLP, CI/CD
  Impact: Achieved 85% relevance in summaries, reducing manual workload by 60% for document reviews.

Consumer Dispute Segmentation
April 2023 – July 2023 **GITHUB LINK**

- Built a machine learning model to classify consumer disputes using **NLP** techniques and supervised learning models like **Decision Trees**.
- Performed extensive **data preprocessing** (tokenization, stop-word removal, TF-IDF vectorization) to convert textual data into numerical features for model input.
- Applied hyperparameters tuning, increasing classification accuracy to 85%, with a 25% improvement in response time for dispute resolution. The **confusion matrix** and **F1-score** were used to evaluate the model's performance.
- **Technologies:** Python, NLP, Scikit-learn, Decision Trees, TF-IDF, Git
  Impact: Improved accuracy by 25% in dispute classification as per dataset, leading to faster response time.

EDUCATION
Bachelor of Computer Applications (BCA) 2019 – 2022
Lovely Professional University, Punjab
CGPA: 8.1/10.0

BLOGS

- **Demystifying Data Science: A Budget-Friendly Guide to Mastering the Art.** An accessible guide aimed at beginners to understand data science methodologies and tools
  Medium Article
- **Understanding Long Short-Term Memory (LSTM) Networks: A Beginner's Guide.** A detailed introduction to LSTM networks, explaining their architecture and applications in deep learning.
  Medium Article