Pushkar Kurhekar

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Education

Northeastern University — Boston, MA
Master of Science in Computer Science, GPA: 4.0 — Expected May 2025

University of Mumbai — Mumbai, India
Bachelor of Engineering in Computer Engineering — July 2019

Skills

Programming Languages: Python, SQL, R
Frameworks & Libraries: PyTorch, PyTorch Lightning, Hugging Face Transformers, TensorFlow, Scikit-learn, NumPy, Pandas, Matplotlib, Plotly, Streamlit, Ray Tune, Optuna, MLflow, TensorBoard, Weights & Biases, LangChain
Cloud Platforms: AWS (EC2, S3, Lambda, SageMaker, Step Functions, API Gateway, ECS)
DevOps & Tools: Git, Docker, Kubernetes, Linux, Bash, CI/CD, Jira

Work Experience

Machine Learning Co-op — January 2024 – August 2024
CAMP4 Therapeutics Corporation — Cambridge, MA

- Developed and fine-tuned large language models (LLMs) using PyTorch for sequence prediction tasks, integrating advanced NLP techniques to enhance model performance and platform capabilities.
- Implemented hyperparameter tuning scripts with PyTorch Lightning and Ray Tune, saving 10 hours per week.
- Configured and managed AWS EC2 instances, handling environment setup, dependency installation, and code execution for data processing and model training tasks.
- Streamlined data pipelines with Python, Bash, and R, reducing computation time by 20% and facilitating faster insights for the data science team to drive strategic decisions.
- Deployed MLflow for rigorous experiment tracking and model versioning, improving model consistency and reliability across 4 machine learning projects.
- Consolidated data preprocessing and evaluation, improving operational efficiency for 3 machine learning projects.
- Collaborated across teams to streamline the integration of machine learning models and AI tools into workflows, facilitating faster research outcomes and valuable insights.

Systems Engineer (Data Scientist Role) — July 2019 – May 2022
Tata Consultancy Services Limited — Mumbai, India

- Led BERT-based NLP model development on AWS, boosting accuracy by 35% and operational efficiency by 40%.
- Developed an automated information extraction system using OpenCV and TensorFlow for scanned documents, improving data extraction accuracy by 64% and processing rates by 30%.
- Deployed transformer models for NER, text classification, and sentiment analysis, improving model applicability.
- Implemented model pipelines with AWS SageMaker, Lambda, ECS, and CI/CD processes, significantly enhancing automation and reducing system downtime by 25%, leading to improved operational efficiency.
- Co-inventor of a granted US patent for the automated information extraction system, highlighting innovative contributions to the field.
- Coordinated closely with cross-functional teams to develop tailored applications based on real-time client feedback, enhancing service delivery efficiency and reducing average response times by four hours every week.

Publications

System And Method For Automated Information Extraction From Scanned Documents — August 2024
Co-inventor, U.S. Patent No. 12,056,171 B2

Automated Text and Tabular Data Extraction from Scanned Document Images — January 2021
ICDMAI 2021 Conference Paper

Real Time Sign Language Estimation System — October 2019
ICOEI 2019 Conference Paper