Kartik Pandit

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WORK EXPERIENCE

Machine Learning Developer Intern – DataInception LLC, Missouri, United States (Remote) Jul 2023 - Sept 2023
- Developed and maintained Python scripts for automated image processing and text extraction, increasing the accuracy and efficiency of the Invoice OCR Dataset.
- Applied machine learning techniques and the Pillow library for image enhancement and noise reduction, achieving an 89% accuracy rate in text extraction.
- Built and monitored Django-based dynamic dashboards for business analytics, enhancing data visualization and improving operational reliability.
- Conducted rigorous A/B testing and statistical analysis, refining image processing algorithms which improved system accuracy by 15%.

Graduate Research Assistant - University of Florida, FL May 2023 - Jul 2023
- Led the development of tree-based genetic programming algorithms, utilizing FPGA acceleration to enhance computational performance.
- Engineered machine learning techniques, including backpropagation, to optimize genetic programming, advancing academic research and technical skills.
- Implemented optimization strategies using the Auto-Grad Python library and the Pebble Game algorithm, effectively managing computational resource constraints.
- Gained expertise in statistical analyses and hypothesis testing, ensuring reliable and robust genetic programming solutions.

Software Engineer- Allianz Technology, Pune, India March 2022 - Aug 2022
- Engineered and deployed microservices architecture and CI/CD pipelines using GitHub and Azure, enhancing software performance and delivery efficiency.
- Developed software solutions to improve system architecture, focusing on reliability and scalability while ensuring flexibility for future integration.
- Utilized Java and automated deployment scripts to streamline software updates, reducing deployment issues by 15% and increasing client satisfaction by 20%.
- Integrated monitoring and error reporting tools, enhancing real-time monitoring, user satisfaction, and gaining system management skills.

Data Science Intern - Yess Infotech Pvt. Ltd, Pune, India Nov 2021 - Feb 2022
- Developed data pipelines and transformed raw data into usable formats for machine learning algorithms, reducing processing time by 30%.
- Utilized Big Data and Hadoop to optimize the performance of predictive models, leading to a 15% improvement in model accuracy.
- Engineered and deployed advanced predictive models that improved data processing capabilities and application performance in real-world scenarios.
- Conducted in-depth performance analysis of machine learning models to ensure efficiency and accuracy, gaining advanced analytical and problem-solving skills.

Data Analyst - Macro Vision Academy, India Oct 2020 - Oct 2021
- Spearheaded data integrity initiatives, implementing data cleaning and preprocessing techniques that enhanced the reliability of predictive modeling algorithms.
- Applied statistical techniques to complex datasets, enhancing decision-making accuracy by 20% and achieving 87% precision across over 100,000 records.
- Engineered and sustained data pipelines with SQL and Python, boosting machine learning model efficiency through improved data processing.
- Created visualizations with Power BI, Tableau, and Excel, delivering insights and supporting data-driven decisions, improving presentation and communication skills.

TECHNICAL SKILLS

Programming Languages:	Python, Java, C, C++, SQL, R, HTML5, SAS, PHP, CUDA, Scala
Machine/Deep Learning:	Scikit-learn, TensorFlow, PyTorch, Keras, Pandas, NumPy, SciPy, NLTK, OpenCV, ANN, CNN, GAN, Auto-Encoders
Databases/Data Visualization:	MySQL, MongoDB, Hadoop, Apache Spark, Kafka, Tableau, Power BI, Matplotlib, Seaborn
Web/Cloud & Deployment:	AWS, Azure, Docker, Kubernetes, Git, Django, Flask
Other Skills:	Statistics & Applied Mathematics, Signal Processing, Big Data, ETL, MLOps, Exploratory Data Analysis, Statistical & Data Modeling, NLP, Data and Signal Processing, Linux, Analytics, Data Quality, Data Pipelines, Predictive Models

EDUCATION

University of Florida, Gainesville, FL Aug 2022 - May 2024
MS in Electrical and Computer Engineering GPA: 3.36/4.00
Relevant coursework: Fundamentals of Machine Learning, Pattern Recognition and Intelligent System, Neural Networks and Deep Learning, Neuro-AI, Analytics, Computer Architecture, Advance Re-configurable Computing.

PROJECTS

ChestVisionAI: Transformative Detection and Localization of Pathologies in Chest X-Rays
- Engineered a data pipeline for processing 15,000 DICOM images using Swin Transformer V2, enhancing pathology localization.
- Utilized CNNs and computer vision techniques to improve bounding box annotations, increasing model precision and reliability on the VinDr-CXR Dataset.
- Integrated the object detection model into healthcare diagnostic platforms, advocating AI adoption and setting technological benchmarks.

Real-Time Stock Market Data Analysis using Kafka
- Developed a Kafka-based data pipeline on AWS EC2 for real-time stock market data processing, achieving sub-second latency.
- Created and optimized data management solutions using AWS S3, Glue, and Athena, enhancing the precision and speed of financial decisions.
- Implemented MLOps practices to manage and monitor the data pipeline, ensuring scalability and real-time analytics efficiency.

Student Exam Outcome Prediction with AWS Cloud Deployment
- Built and trained a model to predict student exam outcomes using Python, showcasing skills in EDA and feature engineering.
- Deployed the predictive tool on AWS, demonstrating expertise in cloud deployment and operational management of machine learning applications.

Road Safety Insights: A Data-Driven Approach to Accident Analysis and Prevention
- Led a project to analyze road accident data, transforming raw data into insights to enhance road safety measures and reduce accident risks through data analytics.
- Executed data management and modeling, creating visualizations with Power BI, Tableau, and Excel, and integrating SQL queries for precise extraction, delivering a solution that enhanced road safety strategies.

Advanced Movie Recommendation System
- Engineered a recommendation system using cosine similarity and BERT embeddings to analyze movie datasets, showcasing advanced classifiers and attention models.
- Developed a user interface with Streamlit, integrating the machine learning model into a software application deployed on Heroku for real-time user interaction.
- Trained and evaluated the system, employing agile development tools such as GitHub for version control and project management.