Sai Manohar Vemuri

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SUMMARY

Computer Science graduate student specializing in Machine Learning, Data Analysis, Deep Learning, and Software Development. Actively seeking opportunities to contribute skills to impactful projects in a collaborative environment.

EDUCATION

Illinois Institute of Technology May 2024

Master of Science (MS), Computer Science, GPA 3.5

Jawaharlal Nehru Technological University

May 2022

Bachelor of Technology (B. Tech), Computer Science

SKILLS

Data Science/Machine Learning : Statistical Analysis, Predictive Modelling, Ensemble Methods, EDA, Computer Vision, Image

Processing, Natural Language Processing, Anomaly Detection

Programming Languages : Python, R, C, C++, Java, SQL, NoSql

Python Packages : Pandas, Numpy, matplotlib, scikit-learn, PyTorch, Keras, TensorFlow, OpenCV, NLTK, spaCy

Web Technologies : HTML, CSS, JavaScript, AJAX, Flask

Databases : MySql, MongoDB, SQL Server, PostgreSQL, Redis

Big Data & Cloud Services : AWS (EC2, Amazon EMR, SageMaker, Kinesis), Apache Flink, Git, PySpark, Hive, Spark

WORK EXPERIENCE

Data Analyst Intern

Illinois Institute of Technology

May 2022- Jun 2022

- Statistical Analysis of Global Facebook Ad Campaigns: Conducted in-depth statistical analysis using techniques including correlation analysis, ANOVA, and regression to identify areas for optimization.
- Regression Analysis for Cost Reduction: Applied regression analysis resulting in a 5% cost reduction through targeted campaign enhancements. Delivered actionable insights and clear visualizations to optimize ad performance and enhance campaign success.

Network Engineer Industrial Trainee

Cisco & Sir C. R. R Polytechnic

Nov 2018 - Apr 2019

- Engaged with diverse computer network technologies, involving setup and arrangement of routers and switches, and achieved CCNA certification during training tenure.
- Attained hands-on familiarity with computer networking concepts, routing protocols, and troubleshooting. Applied JAVA programming for protocol implementation, contributing to e-mail programming (SMTP, POP), and file transfer protocol integration.

PROJECTS

- Customer Churn Risk Prediction using PySpark and AWS Kinesis: Implemented Unsupervised Learning on SageMaker for realtime e-commerce streaming data through Cloud 9, processed with Apache Flink and Kinesis with focus on end-to-end ML pipeline.
- Player Performance Analysis: Analyzed football player data, identified key features and age-match impact. Implemented Ensemble learning and SVM model for accurate player position forecasting, addressing dataset imbalance and exploring alternative approaches.
- Object Detection using Transformers: Implemented ViT model with multi-head self-attention layers for object detection, achieving an 85% classification accuracy and mean IOU of 0.82. Optimized architecture for efficiency and accommodated various object sizes.
- Image Translation using Self Attention-GAN: Designed state-of-the-art techniques, including GANs, Spectral Normalization, and self-attention mechanisms within the SAGAN architecture, enhancing cross-domain image translation with a 9% improvement in FID score, indicating highly realistic and coherent results while preserving semantic content.
- Seismic Image Segmentation using U-Net: Developed a custom U-Net architecture with Binary Cross-entropy, focal, and dice losses for accurate salt region segmentation, outperforming ResNet 50, ResNet 101, and VGG16 with fewer parameters, attaining an impressive 84.168 IOU score.
- Segmentation of Renal Stones: Leveraged image processing in Kidney Stone identification, combining Convolutional Neural Network with Canny edge detection and power-law transformations for 90% accuracy on test data, enhancing diagnostic precision.

PUBLICATIONS

• "Kidney Stones Detection using Image Processing and Deep Neural Networks," International Journal for Research in Engineering Application & Management, June 2022. DOI: 10.35291/2454-9150.2022.0343.

CERTIFICATIONS

- Machine Learning from Stanford University (Coursera)
- Algorithmic Toolbox from University of California San Diego (Coursera)
- Cisco Certified Network Associate from CISCO

ACHEIVEMENTS

- Received Graduate Pathway Scholarship of \$14000 from Illinois Institute of Technology and awarded with a \$1000 Edge Award from Illinois Institute of Technology upon completing the Data Analyst Intern.
- Secured 2nd Position in Coding Hackathon conducted in SRKR Engineering College.