Kunal Jethuri

Delhi, India

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Personal Profile

Data scientist at Digitate with experience in developing cognitive solutions to address complex real-world enterprise problems. Skilled in Machine Learning and Applied Analytics along-with a strong problem-solving ability. Zealous about self-learning and research, with a particular focus on computer vision, natural language processing, and time series analysis.

Education

Guru Gobind Singh Indraprastha University **Aug 2017 – July 2021**

Bachelor of Technology (Electronics and Communication), Cumulative GPA: 8.50 *Delhi, India*

University major project: Satellite Image Segmentation for Flood Damage Analysis.

- Developed a U-Net model with a ResNet-34 backbone for satellite image segmentation.
- Enhanced model performance by integrating multiresolution, multisensor, and multitemporal satellite images.
- Applied transfer learning to first segment building footprints and fine-tuned the model for flooded building segmentation tasks, achieving a Dice score of 0.87—significantly surpassing previous benchmarks

Experience

Digitate, Tata Research Development and Design Center **Aug 2021 – Present**

Data scientist *Pune, India*

- Led time series analysis and forecasting initiatives, including the development of an anomaly detection system, which was published at IEEE Big Data 2022 and led to a patent application.
- Developed an augmented intelligence solution for FIFA 2022, integrating data-driven analysis with fan intuition, achieving 81% accuracy during playoffs. This work was published at ECML PKDD.
- Designed and implemented AI-driven tools for cloud cost optimization and sprawl reduction. This work resulted in 3 patent filings, a paper publication at IEEE Big Data 2024 and TMC 2024 Cloud Computing Product of the Year Award
- Developed a human-in-the-loop approach for automating ticket resolution in enterprise environments using Bayesian knowledge graphs and event correlations. This approach won an hackathon for automating fault resolution.
- Successfully onboarded new features and provided troubleshooting support to multiple customer engagements.

SAG, Defence Research and Development Organization (DRDO) **June 2019 – Sept 2019**

Research Intern *Delhi, India*

- Collaborated on developing deep learning-based natural voice classification and recognition systems.
- Developed a multilingual voice classifier that separated languages based on vocal patterns while implementing advanced noise and accent filtering techniques to enhance model accuracy.
- The model integrated spectrogram analysis with a hybrid of Convolutional neural networks (CNN) and Gated recurrent units (GRU), achieving significant performance improvements over prior models.

Achievements

- **Winner** of Human in the Loop hackathon challenge for developing a solution utilizing Bayesian Knowledge Graph and Event Correlations, enhancing AI capabilities with human intelligence augmentation.
- **Top contender award** in Context on the Go hackathon challenge for developing a solution employing Process Mining and Association Rule Mining to extract context from diverse data sources automatically.
- **Dare to Try Award** for developing an augmented intelligence solution for FIFA 2022 utilizing an ensemble of data-driven and fan-intuition prediction models.
- **Filed four patents**: one for spatiotemporal anomaly detection and three for optimizing spending in a multi-cloud environment.

Publications

- **K. Jethuri**, S. N. Samudrala, P. Priyadarshi and M. Natu D, "Cognitive Metric Monitoring - Characterizing spatial-temporal behavior for anomaly detection," 2022 IEEE International Conference on Big Data (Big Data), Osaka, Japan, 2022, pp. 4768-4776, doi: 10.1109/BigData55660.2022.10021067.
- **K. Jethuri**, S. C. Emmadi, S. N. Samudrala., and M. Natu D. Augmented Intelligence for FIFA Predictions. In: Brefeld, U., Davis, J., Van Haaren, J., Zimmermann, A. (eds) Machine Learning and Data Mining for Sports Analytics. MLSA 2024 at ECML PKDD.[Under Press]
- U. C. Bookya, **K. Jethuri**, S. R. Ravuru, P. Priyadarshi and M. Natu. (2024). "Addressing spend leakage and optimization of cloud costs," 2024 IEEE International Conference on Big Data (Big Data), Washington DC, USA, 2024 [Paper selected for presentation].