VARUN PULIPATI

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EXPERIENCE

Data Scientist Jul 2024 - current
Technet.ai *California, USA*

- Boosted sales forecast accuracy by 25% by developing **self-learning AI/ML** models for product demand prediction, directly enhancing marketing strategies and financial planning.
- Accelerated model deployment by 40% through building **scalable ML pipelines** using TensorFlow, PyTorch, and Kubernetes, reducing time-to-market for new insights.
- Improved revenue-generating decision-making by delivering **predictive analytics** across customer behavior and sales trends.

Research Analyst Aug 2022 - May 2024
Human Factors Lab | NSF *Missouri, USA*

- Developed a real-time analytics platform to detect fatigue in industrial environments, reducing assessment time by 40% using **Django/React** and Microsoft AR motion tracking.
- Designed an **ML model** scoring system (0-100) to quantify user fatigue with 80% precision, with **Statistical analysis** in **AR** learning environments, providing **quantitative insights** into physical demand levels.
- Built and orchestrated an **ETL** pipeline in PostgreSQL & Python, processing 500K+ data points per session, reducing latency by 40% and improving ML model training efficiency while implementing data governance practices for data quality.

Data Analyst Aug 2020 - Dec 2021
Accenture Solutions | Aetna *Chennai, India*

- Enhanced patient care decision-making by identifying high-risk claims using **Python**-driven outlier **fraud** detection, improving early intervention by 20% on 500K+ healthcare claim records.
- Integrated **ML** model predictions into strategic decision-making processes, achieving a 15% improvement in operational accuracy and significantly enhancing resource utilization.
- Worked in **Agile SDLC** env, deploying scalable ML models participating in biweekly sprints and daily standups.
- Built SQL pipelines and interactive **PowerBI** dashboards and implemented data warehousing solutions using **AWS** services.

PROJECTS

Snip-Master Jul 2024 - current

- Developed an **AI-enhanced** Windows clipboard manager that automates text rephrasing and organization, boosting productivity for creators, developers, and business professionals by streamlining routine editing and **copy-paste** tasks.
- By integrating customizable **hotkeys** and **Git**, the tool offers a seamless workflow similar to real-world automation & productivity tools, reducing manual effort and enhancing team collaboration.

Twitter Data Analysis Feb 2022 - May 2022

- Extracted and processed over **1M** tweets to create a dashboard, providing insights into brand sentiment and trending topics.
- This analysis empowers marketing teams and brand managers to make data-driven decisions, adjusting strategies and responding 50% faster to emerging consumer trends.

Playlist Customization System Jan 2025 - current

- Developed an AI-powered audio segmentation model using WaveNet, OpenL3, and librosa to analyze song structures (intro, chorus, verse) and enable seamless trimming, blending, and crossfading for personalized Music playlists.
- Implemented an **AI-driven** recommendation engine for playlist customization based on **mood, energy, and interests**.

SKILLS

- **Programming**: Python, SQL, Django, Flask, React, Shell Scripting.
- **DevOps & Cloud** : AWS, Azure, Docker, Kubernetes, Linux, Git, CI/CD, Jenkins, Agile, SDLC.
- **Machine Learning & MLOps**:Scikit-learn, TensorFlow, Hugging Face, OpenAI, NLP, LLMs, Feature Engineering, PyTorch, A/B Testing, Statistical Modeling, CI/CD, Jenkins, Git, ML Pipelines, Model Monitoring, Data Versioning
- **Analytics & Modeling:** Apache Spark, Kafka, Hadoop, Power BI, Tableau, Data Governance, Data Quality Assurance.
- **Data Management**: MySQL, PostgreSQL, MongoDB, ETL, Data Warehousing(Redshift).

EDUCATION

University of Missouri, College of Engineering Columbia, Missouri
Master of Science in Computer Science *May 2024*

- Courses: Data Analysis, Cloud Computing, Web Dev, Big Data, Computer Vision, Machine Learning, Advance NLP.

CVR, College of Engineering Hyderabad, India
Bachelor of Technology in Electronic and Computer Engineering *May 2020*

ACHIEVEMENTS

Honored with XRTG Best Student Paper Award 2024 for contributions to AR and motion capture research.

PUBLICATIONS (Google Scholar)

- Pulipati, V., Kim, J. H., Wang, F., Oprean, D., & Seo, K. (2024). Measuring physical demand in Augmented Reality learning environments. *Ergonomics*, 1–13. https://doi.org/10.1080/00140139.2024.2447870.
- Pulipati, V. *et al.* (2024). Measuring Fatigue Dynamics of Augmented Reality in the Digital Learning Era Using Motion Capture Data. HCII 2024.. https://doi.org/10.1007/978-3-031-61060-8_7.
- Pulipati, V., Kim, J. H., Wang, F., Mostowfi, S., Oprean, D., & Seo, K. (2024). Utilizing Motion Capture to Quantify Physical Workload in Augmented Reality Learning Environments. https://doi.org/10.1177/10711813241261681.