Prateek Mohan

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PROFILE

Data Science and Machine Learning enthusiast with a strong background in Cloud Computing and Software Engineering. Proven track record of developing innovative solutions leveraging predictive modeling, deep learning, NLP, computer vision, and big data technologies. Pursuing a Master's degree in Computer Science at Arizona State University to further enhance skills in advanced machine learning techniques, statistical analysis, and data-driven decision making. Eager to contribute problem-solving abilities, technical expertise, and collaborative spirit to drive organizational success.

EDUCATION

1. **Master of Computer Science** — Arizona State University — Aug 2022 - May 2024
2. **Bachelor of Technology, Computer Science and Engineering** — PES University, Bangalore, KA, India — Jul 2015 - Aug 2019

WORK EXPERIENCE

1. **Software Engineer II** — VMware Inc., India — Jul 2019 - Jul 2022
   - Pioneered the automation of vSphere deployments by harnessing VMware's proprietary APIs, achieving a streamlined infrastructure setup process that resulted in a 90% reduction in deployment timeframes for vCenters, ESXi hosts, and various storage systems including VMFS, vSAN, NFS, and VVols.
   - Engineered and refined Kubernetes setups on VMware vSphere, leading to a 30% quicker deployment via automation and CI/CD pipeline improvements. This also resulted in a 75% reduction in rollback occurrences, attributed to enhanced testing and quality checks.
   - Orchestrated the seamless integration of VMware vSphere Container Storage Plug-in with Kubernetes, delivering a 35% increase in storage efficiency and a 20% cost reduction. My technical expertise also halved incident resolution times and reinforced system reliability, ensuring high availability and performance.
2. **Software Engineering I** — VMware Inc., India — Jan 2019 - Jul 2019
   - Created a Java-based validation tool for vSphere datacenter configurations, enhancing layout accuracy by 62% and conserving over 20 hours per week previously spent on manual checks.
   - Conducted a thorough analysis and refinement of data center lifecycle management processes, leading to a 15% savings in storage resource allocation and a 25% faster resource deployment.
   - Employed Tanzu Observability by Wavefront for in-depth analytics on vSphere infrastructure, enhancing monitoring efficiency by 45% and accelerating performance troubleshooting by 50%.
3. **Research Intern** — University of California, Irvine, CA — Jul 2018 - Aug 2018
   - Pioneered a real-time Environmental Health Monitoring system by integrating various environmental data streams into a unified health metric dashboard, enabling immediate monitoring and data-driven decision-making.
   - Enhanced data collection processes with cutting-edge API technology, achieving an 80% increase in data precision and consistency.
   - Developed a novel cigarette intake equivalent metric by analyzing air pollution data and individual breathing rates, contributing to improved public health research.The methodology and results are documented in a research paper available on arXiv.

RELEVANT PROJECTS

- **Fetal Monitoring System - Cloud Computing and Big Data (PES University)**: Designed a low-cost fetal monitoring system using cloud solutions, achieving 98% cost reduction and 96% accuracy. Utilized machine learning algorithms for fetal heartbeat detection and signal processing. Secured patent approval from the Indian Patent Office, with the Patent Certificate accessible through their database.
- **Indoor Positioning System (PES University)**: Developed algorithms for Android phones that transformed sensor data into precise location data with 92% accuracy, enabling a hospital-based indoor positioning system. Employed deep learning techniques like LSTMs for sensor fusion, location estimation, and trajectory prediction. This work has been published by Springer.
- **Depth Sensing Mono Camera (Huawei Club, PES University)**: Formulated a depth-sensing mono-camera program using Capsule neural networks for accurate depth estimation from monocular images. Applied advanced computer vision and deep learning techniques for 3D reconstruction, depth map generation, and transfer learning.

SKILLS

- **Data Science & Machine Learning:** Python (NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, Keras), R, SQL, Hadoop, Spark, Data Visualization (Tableau, Matplotlib, Seaborn), Statistical Modeling, Predictive Modeling, Time Series Analysis, Feature Engineering, NLP (NLTK, SpaCy, Transformers), Computer Vision (OpenCV, PIL), Deep Learning (CNN, RNN, LSTM, GAN, Capsule Networks), Reinforcement Learning, Ensemble Methods, Transfer Learning, Signal Processing, Anomaly Detection
- **Cloud Computing:** AWS (EC2, S3, Lambda, SageMaker), GCP (GCE, GCS, Cloud ML), Azure (VM, Blob Storage, Machine Learning Studio), Kubernetes, Docker, Serverless Architecture, Microservices, DevOps
- **Software Development:** Java, Python, JavaScript (React, Node.js), C++, C, HTML/CSS, RESTful APIs, CI/CD, Agile, Design Patterns, Data Structures, Algorithms, Git, Linux/Unix
- **Databases:** SQL, MySQL, PostgreSQL, MongoDB, Cassandra, Neo4j, Data Warehousing, ETL
- **Additional Skills:** Problem Solving, Communication, Team Collaboration, Innovation, Leadership, Project Management, Adaptability, Time Management, Critical Thinking, Attention to Detail, Business Acumen, Data-Driven Decision Making