Prateek Mohan

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Professional Summary

Versatile Software Engineer with 4 years of professional experience, recently graduated with a Master's in Computer Science from Arizona State University. Specialized in software architecture and cloud technologies, I effectively combine technical proficiency with problem-solving and collaboration skills to deliver high-quality software products. Committed to continuous learning and technological advancement, I seek a challenging development role to contribute to innovative projects and organizational success.

Education

1. **Master of Computer Science**, Arizona State University — GPA: 3.9/4.0 Aug 2022 - May 2024
2. **Bachelor of Technology, Computer Science and Engineering**, PES University, Bangalore, India — GPA: 7.89/10 Jul 2015 - Aug 2019

WORK EXPERIENCE

1. **Software Engineer II** — VMware Inc., India — Jul 2020 - 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 2020

   - 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

   - Initiated an innovative Environmental Health Monitoring system that consolidates multiple environmental data sources into a single health metric dashboard, facilitating instant surveillance and informed decision-making processes.
   - 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.
- **CSE 591: Image Analytics Informatics Project (Arizona State University)**: Spearheaded three pivotal projects employing advanced image analytics in medical imaging, enhancing polyp detection in colonoscopy images, lung segmentation from chest X-rays, and pulmonary embolism identification in CTPA scans. Utilized state-of-the-art deep learning architectures like ResNet-18, U-Net++, and Faster R-CNN to achieve significant improvements in classification, segmentation, and localization tasks, contributing to the advancement of diagnostic processes.
- **Habituate: AI-Powered Habit Transformation (Arizona State University)**: Prototyped an AI-powered web application aimed at transforming habit tracking through image-based logging and personalized feedback. Integrated computer vision and natural language processing techniques, including object detection with ResNet and YOLOv5, and generative AI with Moondream2 and Mistral-7B models, to provide users with actionable insights into dietary patterns and workspace organization, fostering improved habit formation and maintenance.

Skills

- **Programming & Scripting:** Python, Java, JavaScript, C++, C, HTML/CSS
- **Machine Learning/Deep Learning:** NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, Keras, CNN, RNN, LSTM, GAN, NLP (NLTK, SpaCy, Transformers), Computer Vision (OpenCV, PIL)
- **Cloud Platforms & Virtualization:** AWS (EC2, S3, Lambda, SageMaker), GCP (GCE, GCS, Cloud ML), VMware (vSphere, vCloud), Kubernetes, Docker, LLM
- **DevOps & Software Engineering Practices:** CI/CD, Agile Methodologies, Git, Linux/Unix, RESTful APIs, Microservices, Serverless Architecture
- **Databases & Data Management:** SQL, MySQL, PostgreSQL, MongoDB, Cassandra, Neo4j, Data Warehousing, ETL
- **Data Analysis & Visualization:** Data Visualization (Tableau, Matplotlib), Statistical & Predictive Modeling, Time Series Analysis
- **Professional Competencies:** Problem Solving, Effective Communication, Team Collaboration, Leadership, Project Management, Critical Thinking, Business Acumen