OMKAR SARDE

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WORK EXPERIENCE

DEKA R&D Corporation, Manchester, NH,

Machine Learning Software Engineer, Feb 2022 – Present

- Directed architecture and deployment of 4 distributed ML system workflows utilizing Python, C++, SQL, Docker, Kubernetes, AWS, and Airflow, achieving a 40% performance increase, and reducing latency by 35%.
- Overhauled two ML production systems for 2D object detection, enhancing input capacity by 30% and resource utilization by 40% via Airflow DAG profiling, codebase refactoring, and resource optimization.
- Transformed software development lifecycle by implementing Agile, CI/CD, and TDD methodologies. Constructed 4 new CI/CD pipelines, increasing task completion speed by 35% and enhancing software reliability by 40%.
- Designed an efficient data management system using SQL (PostgreSQL) and NoSQL databases (Elasticsearch), enhancing data retrieval times by 50%.

Rochester Institute of Technology, Rochester, NY,

Graduate Research Assistant, Jul 2020 – Feb 2021

- Developed advanced web crawlers using Python and opensource APIs, creating a diverse dataset of 1000+ videos across 5+ categories and enhancing data collection speed by 40%.
- Created video-to-text generators using Faster RCNN + LSTM models, to automate annotation of the dataset to generate a vocabulary for over 100 objects with a BLEU score of 71.8.
- Improved model accuracy in automated annotation processes by 30% by applying data engineering techniques like PCA, ICA, LDA, LLE, and t-SNE.

Horizon Geospace Pvt. Ltd., Pune, India,

Machine Learning Engineer, Jun 2017 – Jul 2018

- Designed and engineered real-time data pipeline workflows with Spark and Kafka, deploying various algorithms and ML techniques to boost system performance by 60% and system efficiency by 45%.
- Created ML-based CRM prototypes with TensorFlow, Keras, and PyTorch, contributing to a 15% sales increase and 50% improvement in customer retention.
- Integrated Computer Vision and NLP ML systems into microservices architectures with Docker and Kubernetes, enhancing system resilience by 50% and scalability by 70%.
- Fostered a culture of continuous learning and collaboration among a team of 5 interns, increasing team productivity by 40%.

DRDO HEMRL, Pune, India,

Engineering Intern, Aug 2016 – May 2017

- Programmed efficient deep learning system prototypes for propellant analysis, reducing system storage footprint by 43% and training time by 27% through advanced feature engineering techniques.
- Enhanced code coverage from 63% to 94% through refactoring and unit testing, leading to 1.5x improvement in Memory (CPU) management & saved 110ms in loading time.

SKILLS

- **Programming Languages**: Python, Java, C++, SQL, Bash
- **DevOps**: Docker, Kubernetes, CI/CD
- **Databases**: PostgreSQL, MongoDB, Elasticsearch
- **Tools and ML Frameworks**: TensorFlow, PyTorch, Keras, Git, Spark, Kafka, Apache Airflow, AWS, GCP, Azure
- **Concepts**: Data Structures & Algorithms, OOP Design Patterns, Distributed Computing, Agile Practices, Microservices Architecture, Machine Learning, NLP, Computer Vision

EDUCATION

Master of Science, Computer Science, Rochester Institute of Technology, Rochester, NY, Aug 2018 – Dec 2021

- Received Graduate Merit Scholarship for high academic achievements (40% of entire tuition waived by RIT).
- Relevant coursework: Data Structures & Algorithms, Distributed Computing, Machine Learning, Cloud Computing.

Bachelor of Engineering, University of Pune, Pune, India, Aug 2013 – May 2017