OMKAR POPATRAO SARDE

Machine Learning Engineer

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EDUCATION:

Master of Science – Computer Science December 2021 (*Anticipated*)
Rochester Institute of Technology *Rochester, NY*

- Achievements: Graduate Merit Scholarship; GRE: 320/340; GPA: 3.48 / 4.00
- Courses: Algorithms Analysis, Object-oriented Design, SDLC, Machine Learning (ML), Data Mining & Analysis

Bachelor of Engineering – Mechanical Engineering May 2017
Savitribai Phule Pune University *India*

WORK EXPERIENCE:

Research Assistant July 2020 – February 2021
Rochester Institute of Technology *Rochester, NY*
Software Stack: *Python, Pytorch, MXNet, NLP, ML, CNN, GAN, VAE, Segmentation, Classification, Recognition*

- **Data Mining & Feature Engineering**: Facilitated activity recognition research by developing a dataset of 1000+ videos over 5+ categories by programming web crawlers; enhanced data collection speed by 40%.
- **ML Algorithms, Models Training & Development**: Implemented video-to-text models to annotate the dataset using Faster RCNN + LSTM; successfully generated vocabulary for 100+ objects achieving 71.8 BLEU score.

Machine Learning Engineer June 2017 – July 2018
Horizon Geospace *India*
Software Stack: *Python, Java, R, SQL, Tensorflow, Hadoop, Tableau, NLP, ML, Statistical Modeling, SCRUM*

- **Full-stack Development**: Engineered hypothesis testing, A/B testing; built scalable ML and Deep Learning models to deliver inferences for 25 Proof of Concepts (POCs); POCs resulted in onboarding of 22 new customers**.**
- **Data Engineering**: Devised 24 ETL pipelines to enable analytics at scale; reduced decision time by 20%.

Engineering Intern August 2016 – May 2017
Defense Research and Development Organization HEMRL *India*
Software Stack: *Python, Java, Pytorch, Scikit-learn, NodeJS, React, SDLC, Unit-Testing, Agile Methodology*

- **ML Model Training & Development**: Collaborated with scientists to replace testing of propellants with computer vision-based system using CNN + GRU models; simulated and predicted pressure effects with 83% acc.
- **Software Testing**: Enhanced code coverage from 67% to 85% and test coverage from 63% to 87% using refactoring and unit-testing to update legacy systems; saved 110 ms in data load time.

PROJECTS:

Covid19 Case Geo-Location Tracker | Used *Flask, Docker, D3js, SVM, Random Forest, SQL-Alchemy, Regression*

- Optimized, containerized Covid19 data visualization dashboard and tracking application; utilizes SVM & random forest models to predict cases with 90% acc based on 48 custom features aggregated from multiple datasets.

Optical Character Recognizer (OCR) | Used *Pytorch, Scipy, Pandas, OpenCV, Classification, Recognition*

- Handwritten text recognition Application for Math Formulas; uses Line of Sight (LOS) Graph for segmentation, Neural Network for classification and Minimum Spanning Tree for parsing; achieved 74% avg. F-measure score.

Financial Portfolio Optimizer | Used *Pytorch, Scipy, Timeseries Forecasting, Statistical Predictions*

- Financial stock portfolio optimizer utilizing ARIMA, VAR, and LSTM models to maximize profit and minimize risk; achieved avg. Sharpe ratio of 1.7 for time delta of 7 days, successfully selecting least volatile stocks.

TECHNICAL SKILLS:

- Languages: Python, Java, R, JavaScript, SQL (MySQL, PostgreSQL), NoSQL (MongoDB)
- Tools: Pytorch, Tensorflow, MXNet, Scikit-learn, Scipy, Pandas, NodeJS, React, AWS, Hadoop, Docker, Git
- Proficiencies: Software Development, Database Management, Design Patterns, Deep Learning