OMKAR POPATRAO SARDE

Machine Learning Engineer

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EDUCATION:

Master of Science in Computer Science   December 2021

Rochester Institute of Technology   *Rochester, NY*

- Achievements: Graduate Merit Scholarship (August 2018 - Present); GRE: 320/340; GPA: 3.48 / 4.00
- Courses: Algorithms Analysis, Object-oriented Design, SDLC, Machine Learning (ML), Data Mining & Analysis

Bachelor of Engineering in Mechanical Engineering   May 2017

Savitribai Phule Pune University   *India*

WORK EXPERIENCE:

Graduate Research Assistant   July 2020 – February 2021

Rochester Institute of Technology   *Rochester, NY*

Technologies Stack: *Python, Tensorflow, NLP, ML, CNN, GAN, VAE, LSTM, Segmentation, Recognition, Tracking*

- Facilitated Human Object Interaction research by **developing a dataset of 1000+ videos over 5+ categories by programming web crawlers**; enhanced data collection speed by 40% with precision range of 85% - 90%.
- Implemented **video-to-text models to annotate the dataset using Faster RCNN + LSTM**. Model successfully generated vocabulary for 100+ objects achieving Bilingual Evaluation Understudy (BLEU) score of 71.8.

Machine Learning Engineer   June 2017 – July 2018

Horizon Geospace   *India*

Technologies Stack: *Python, Java, R, SQL, Tensorflow, Hadoop, Tableau, NLP, ML, PCA, LDA, Statistical Modeling*

- Engineered and executed hypothesis testing, A/B testing and built scalable ML and Deep Learning models to deliver inferences for 25 Proof of Concepts (POCs). **POCs resulted in onboarding of 22 new customers.**
- Devised **24 ETL pipelines to enable users to perform analytics at scale**, reducing time to decision by 20%.

Engineering Intern   August 2016 – May 2017

Defense Research and Development Organization HEMRL   *India*

Technologies Stack: *Python, Java, Pytorch, Scikit-learn, NodeJs, React, Unit-Testing, Agile Methodology, ML*

- Led effort to replace manual testing of solid rocket propellants with computer vision-based solution using CNN + GRU models; **successfully simulating and predicting physical effects of pressure with 83% acc.**
- Enhanced code base **coverage from 67% to 85%, test coverage from 63% to 87% by refactoring and unit-testing** to update legacy system. Refactored system saved 110 ms in data load time.

PROJECTS:

- **Covid19 Case Geo-location Tracker:** Containerized Covid19 data visualization dashboard and statistical trajectory prediction application. App utilizes SVM & random forest models to predict cases with 90% acc.
- **Optical Character Recognizer (OCR):** OCR application for handwritten text utilizing Line of Sight (LOS) Graph for segmentation, Neural Network for classification; successfully achieved avg. F-measure score of 74%.
- **Financial Portfolio Optimizer:** Financial stock portfolio optimizer utilizing ARIMA, VAR and LSTM models to maximize profit and minimize risk; achieving avg. Sharpe ratio of 1.7 for predictions for time delta of 7 days.

VOLUNTEER EXPERIENCE:

- **Women in Computing (WiC)** Hackathon, Volunteer, *Rochester, NY*.   **2020, 2021**
- **Financial Literacy Campaigns for Women**, Volunteer, *India*.   **August 2014 – Present**

TECHNICAL SKILLS:

- **Languages:** Python, Java, R, JavaScript, SQL, NoSQL
- **Tools:** Pytorch, Tensorflow, Keras, Scikit-learn, Scipy, NodeJS, React, Linux, AWS, Hadoop, Spark, Docker, Git
- **Key Proficiencies:** Software Development, Database Management, Design Patterns, ML, Deep Learning