

# 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 a 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 a 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 the 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*

- Collaborated with scientists to replace testing of propellants with computer vision-based solution using CNN + GRU models; **successfully simulating and predicting real-time pressure effects with 83% accuracy.**
- Enhanced code **coverage from 67% to 85%** and **test coverage from 63% to 87% using refactoring and unit-testing** to update legacy systems. The refactored systems 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 (MySQL, PostgreSQL), NoSQL (MongoDB)
- **Tools:** Pytorch, Tensorflow, Keras, Scikit-learn, Scipy, Pandas, NodeJS, React, AWS, Hadoop, Docker, Git, Github
- **Key Proficiencies:** Software Development, Database Management, Design Patterns, ML, Deep Learning