

# Omkar Popatrao Sarde

Software Engineer | Portfolio: [omkarsarde.github.io](https://omkarsarde.github.io)

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## EDUCATION

**Master of Science, Computer Science**; Rochester Institute of Technology, Rochester NY *Expected Dec 2021*

- Relevant Courses: Algorithm Design, Object-oriented Design, Software Engineering, Machine Learning (ML)

**Bachelor of Engineering, Mechanical Engineering**; Savitribai Phule Pune University, Pune, IN *May 2017*

## SKILLS

<b>Programming Technologies</b>	Python, Java, JavaScript, HTML, CSS, Relational Databases (MySQL), No SQL Databases (MongoDB)
<b>Concepts</b>	PyTorch, TensorFlow, Nodejs, React, Amazon Web Services (AWS), Hadoop, Spark, Linux, Docker, Git
<b>Concepts</b>	SDLC, REST API, Unit Testing, Design Patterns, Wireframing, Prototyping, Cloud Computing, Scrum

## EXPERIENCE

**Research Assistant** – [Rochester Institute of Technology](#); Rochester, NY *Jul 2020 – Feb 2021*

- Data Engineering** – Collaborated with a cross-functional agile team to build a dataset of 1000+ videos over 5+ categories by programming parallel & distributed web crawlers; enhanced data collection speed by 40%.
- ML Algorithm Development & Model Training** – Implemented video-to-text models to annotate the dataset using Faster RCNN + LSTM architecture; generated vocabulary for 100+ objects achieving 71.8 BLEU score.
- Software Stack – *Python, PyTorch, CNN, GAN, VAE, Segmentation, Classification, Recognition.*

**Software Engineer** – [Horizon Geospace Pvt. Ltd.](#); Pune, IN *Jun 2017 – Jul 2018*

- Back-end Software Development** – Engineered and implemented scalable microservices-based APIs utilizing distributed architecture to replace old monoliths; this reduced infrastructure costs by 35%.
- Distributed Systems & Scalability** – Developed and optimized 24+ ETL pipelines to enable analytics at scale, leading to a 3x improvement in data load times & reducing decision-making time by 30%.
- ML & Deep Learning** – Engineered hypothesis & A/B testing; built ML-based 25 Minimum Viable Product (MVP) prototypes for CRM products; resulted in the onboarding of 22 new customers & a 15% increase in sales.
- Mentoring** – Mentored 3 interns to develop their programming & software engineering skills to get full-time roles.
- Software Stack – *Python, Java, TensorFlow, SQL, Hadoop, Spark, ML, Statistical Modeling, SCRUM.*

**Engineering Intern** – [DRDO HEMRL](#); Pune, IN *May 2016 – Aug 2017*

- Software Testing & debugging** – Enhanced code coverage from 63% to 94% using refactoring & unit-testing to update applications, leading to 1.5x improvement in Memory (CPU) management & saved 110ms in loading time.
- Front-end Software Development** – Performed numerous code redesigns, participated in scalability & architecture optimizations to develop dashboards & front-end features for multiple user interfaces.
- Received verbal and written accolades for effort from key stakeholders and leadership.
- Software Stack – *Python, Java, SQL, NodeJS, React, Unit Testing, Agile Methodology.*

## PROJECTS

**Covid19 Web Application.** Built a web app to track & find trends in covid19 cases by traversing multiple databases. Provided real-time data visualization through dashboard & API access using Python, Flask, HTML, CSS, ML. [View Live App.](#)

**Social Media Web Application.** Launched a web app (as a full-stack software developer and project manager) for users to communicate through pictures & videos using NodeJS, React, Firebase, HTML, CSS. [View Source.](#)

**Concurrent Communication Application for Distributed Systems.** Developed a reliable protocol for concurrent communication between routers using distributed architecture built on core Java, UDP & Docker. [View Source.](#)

**Optical Character Recognizer.** Programmed a handwritten text recognition application; uses Line of Sight (LOS) Graph for segmentation, Neural Network for classification & MST for parsing using Python, PyTorch, Scikit-learn. [View Source.](#)

## Volunteering

**Women in Computing Hacks.** Volunteered to organize & maintain resources to enhance experience of 500 participants.

**Financial Literacy Campaign for Women.** Held multiple financial literacy camps attend by 1000+ women & children.