Omkar Popatrao Sarde

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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

Programming	Python, Java, JavaScript, HTML, CSS, Relational Databases (MySQL), No SQL Databases (MongoDB)
Technologies	PyTorch, TensorFlow, Nodejs, React, Amazon Web Services (AWS), Hadoop, Spark, Linux, Docker, Git
Concepts	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   *Aug 2016 – May 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 literacy camps attended by 1000+ women & children.