

SARVESH SIRAS

sarveshsiras@cmu.edu • (412) 918-9840 • linkedin.com/in/sarveshsiras/ • www.sarveshsiras.github.io/

EDUCATION

Carnegie Mellon University

Pittsburgh, PA

Master of Information Systems Management (GPA: 3.90) (Dean's List)

Expected Graduation: Aug 2025

Coursework: Machine Learning in Production, Advanced NLP, Data Structures and Algorithms, Distributed Systems, Introduction to Deep Learning, Object Oriented Programming in Java, Design Thinking, Statistics

College of Engineering Pune (COEP) Technological University

Pune, India

Bachelor of Technology (B.Tech.), Information Technology (GPA: 3.61)

Aug 2017 - May 2021

Coursework: Data Structures and Algorithms, Distributed Systems, Principles of Programming Language, Natural Language Processing, Computer Networks, Operating Systems, Database Management Systems

PROFESSIONAL EXPERIENCE

Mastercard

Pune, India

Software Engineer II

July 2021 - July 2024

- Engineered highly scalable, secure, fault-tolerant micro-services capable of handling **1500** transactions/second
- Spearheaded the migration of Monolithic applications to Micro-services architecture which had better performance and scalability
- Leveraged tools like Splunk and Dynatrace to analyze the performance of critical features, identifying and resolving bottlenecks to enhance overall system efficiency **3x**
- Collaborated with stakeholders, and engineering team members to define project requirements, plan Agile sprints, and deliver high-quality software on time through effective teamwork and clear communication
- Thrived in a fast-paced problem-solving environment, effectively managing multiple projects and priorities, actively participating in code reviews and provided constructive feedback to enhance code quality

Mastercard

Pune, India

Software Engineer Intern

May 2020 - June 2020

- Partnered with the Operations and Technology team to develop an e-commerce REST application using technologies like Spring boot, Java, React, and H2 for in-house enterprise applications
- Devised mocking framework to enable Rapid Application Development that reduced prototyping time by **50%**

SKILLS & CERTIFICATIONS

Programming Languages: C, C++, Python, Java, SQL, HTML, CSS, JavaScript, PHP

Technologies and Tools: Data Structures, PyTorch, RDBMS, Spring Boot, Git, Kafka, Splunk, Dynatrace, Linux, Stream API

Certifications: IBM Machine Learning Professional Certificate, Specialization in Python by University of Michigan

ACADEMIC PROJECTS

MyTorch (Deep Learning, Python, NumPy, SciPy)

Aug 2024 – Dec 2024

- Designed and developed foundational layers for deep learning models, including linear layers, activation functions (ReLU, Sigmoid, Tanh, Softmax), and regularization techniques like batch normalization from scratch
- Constructed MLPs of varying depths, implemented forward and backward propagation, and optimized models using gradient descent and advanced optimizers like SGD with momentum
- Engineered convolutional layers (1D and 2D), pooling layers (MaxPool, MeanPool), and resampling operations

Digitization of Invoices (Machine Learning, Python, PyTorch, Tesseract, NumPy, SciPy, Flask)

Jan 2021 – May 2021

- Employed Computer Vision techniques to digitize paper-based invoices into excel sheets with **86%** accuracy
- Trained Convolutional Neural Network models to accurately map the invoice data and devised image processing techniques to detect table and process text, respectively
- Applied Machine learning models to accurately map the invoice data into an excel sheet
- Published the project's findings in a research paper titled **A Deep Learning Approach for Digitization of Invoices** in the IEEE journal

LEADERSHIP & ACTIVITIES

CMU AI Club, CMU Chess Club

Aug 2024 – Present

Pro Bono Consultant Lead, Bal Utsav

Aug 2021 - Oct 2021