

Shounak Desai

585-540-7488 | shounakdesai72@gmail.com | [Linkedin](#) | [Github](#) | shawn2030.github.io

SUMMARY

Motivated Machine Learning Engineer with expertise in building scalable AI-driven solutions, Generative AI models (VAEs, GANs, DDPM), Computer Vision systems, and data pipelines. Proficient in designing AI automated systems, implementing Advanced Data Analysis, and deploying MLOps frameworks for seamless model integration. Skilled in statistical modeling, ETL processes, and delivering actionable insights.

EDUCATION

Rochester Institute of Technology

Master of Science in Computer Science (Specialization: Artificial Intelligence)

Rochester, NY

Aug 2022 - Dec 2024

Pune Institute of Computer Technology (PICT)

Bachelor of Engineering in Electronics and Telecommunications

Pune, India

June 2016 – May 2020

WORK EXPERIENCE

Research Assistant

Computational Biomedicine Lab - RIT

May 2023 - Present

Rochester, NY

- Engineered a Domain Adversarial Neural Network (DANN) using PyTorch on simulated and clinical ECG datasets, achieving a **58% accuracy**—a substantial improvement over the 30% baseline for Arrhythmia detection

Machine Learning Engineer

Vodafone Intelligent Solutions (VoIS - Vodafone Group)

Aug 2020 - July 2022

Pune, India

- Designed and implemented **end-to-end ML Automation pipelines** using Scikit-Learn, Docker, GCP tools, and Apache Airflow, advancing MLOps practices within the team
- Constructed ETL pipelines and applied AI/ML models with statistical analysis using Python, Pandas, and Apache Spark for large-scale data processing
- Optimized GCP service utilization by strategically advising on cost-effective solutions for 3+ GCP projects, enhancing the department's cloud efficiency

PROJECTS

Offside detection in Soccer using Single Camera | *Python, OpenCV, PyTorch*

April 2024

- Pioneered a novel offside detection system utilizing a single camera, reducing the need for 10-30 traditional cameras by **90-97%**, thereby significantly lowering hardware costs and complexity [Github](#)
- Leveraged pretrained model for precise **Keypose Estimation**, employing vanishing point techniques to construct accurate 3D offside lines using Hough Lines in 3D space

SOX Compliance Tickets Automation Pipeline | *NLP, GCP, Apache Airflow*

March 2022

- Led the automation of the work of 25-30 full-time employees at Vodafone Group, **saving \$350k-\$800k** in revenue by developing an end-to-end binary classification NLP pipeline
- Deployed the XGBoost NLP model on GCP Cloud Composer utilizing Scikit-Learn, Apache Airflow and Google Cloud Storage delivering an end-to-end automation pipeline with **88% accuracy**

OCR based File extraction API | *Python, PostgreSQL, Flask, Docker, Tesseract*

May 2021

- Contributed to developing a Flask API that used **Tesseract OCR** to extract data from business PDFs, generated CSV outputs, and integrated SQL queries with **PostgreSQL** for 4 international markets.
- Automated the manual process of extracting information from contracts, deploying the solution on SAP Cloud Platform using Docker, **saving \$100k+** for Vodafone

TECHNICAL SKILLS

Languages and Tools: Python, Java, C++, R, Shell scripting; SQL, NoSQL, PostgreSQL, MongoDB, Apache Spark

ML Frameworks & Libraries: PyTorch, TensorFlow, Scikit-Learn, Numpy, Pandas, Matplotlib, NLTK, OpenCV

Cloud & DevOps Tools: Google Cloud Platform (GCP), MLFlow, Apache Airflow, Docker, Flask, Git; Generative AI expertise in VAEs, GANs, and Diffusion Models