Sam Reeves Susikar

Machine learning and Software engineer

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SUMMARY

With a strong background in machine learning and software development, I am committed to harnessing my technical skills to further develop intelligent and data-driven applications. As a passionate machine learning engineer, I seek opportunities to make impactful contributions in the field of technology and engineering.

EDUCATION

New Horizon College of Engineering — Bangalore, India
Bachelor of Engineering in Artificial Intelligence and Machine Learning — October 2022 – present
CGPA: 8.54

- Gained comprehensive understanding in subjects such as Machine Learning, Full Stack development, Database Management Systems and Statistical and discrete math.
- Completed a certificate course on Full stack web development using python frameworks such as flask and Django.
- Played as part of the College Football squad.

WORK EXPERIENCE

Web Developer — Newcastle, England
North East United in Christ Fellowship — May 2024 – present

- Designed a website for the NUICF organisation (www.nuicf.com) using vanilla javascript.
- Developed a seamless front end design and built a responsive solution for both mobile and desktop clients using CSS.
- Created CSS classes and used javascript's IntersectionObserver library to trigger smooth CSS animations on scroll and hover

Web Developer — Newcastle, England
Whole squared sports — January 2025 – present

- In the process of developing a full stack web application for a sports retail store using nextJS
- Developing an inventory management system along with a database for customer information using SQL
- Integrating a payment system using razorpay's api call

Web design intern — Bangalore, India
AID India — June 2021 – January 2022

- Developed a front end design for the website (aidindia.in) using CSS, tailwind and figma
- Created functional components for the website such as navigation, footer and the header bar

RELEVANT PROJECT EXPERIENCE

Border Surveillance System | YOLOv4-Tiny — Bangalore, India
Group project — October 2024 – December 2024

- Developed and optimized an AI-based image segmentation module using YOLOv4-Tiny, tailored for real-time object detection in border surveillance
- Fine-tuned the YOLO model with domain-specific datasets.

Personal chatbot | Transformers, Huggingface — Bangalore, India
Personal project — August 2024

- Developed an intelligent chatbot using Hugging Face's GPT-2 model to produce answers tailored to user-defined inputs
- Optimised the model and trained it further using the SQuAD dataset amongst others in order to establish contextual understanding
- Hyper-parameterised the model in order to obtain optimal performance and higher accuracy

Vehicle segmentation using YOLOv8 | YOLOv8n — Bangalore, India
Personal project — May 2023 – August 2023

- Developed a real-time vehicle classification script using YOLOv8n for detecting and classifying vehicles.
- Fine-tuned YOLOv8 on a dataset, including labeling images and bounding boxes in YOLO format.
- Gained valuable insight on PyTorch and image classification.

SongRecognizer | Librosa, scipy — Bangalore, India
Mini project — June 2024 – August 2024

- Developed Python script using the librosa library to replicate Roy van Rijn's song recognition algorithm.
- Extracted frequencies from given audio clips using a short term fourier transformation algorithm present in the scipy library.
- Created a database of audio fingerprints for a set of mp3 files and compared the fingerprints to identify the song

Champions League Analysis | matplotlib, seaborn, pandas — Bangalore, India
Personal project — November 2023

- Carried out elaborate analysis on a set of datasets comprising of statistics found across an entire UEFA Champions league season in 2022.
- Implemented multiple figurative and statistical techniques to gain valuable experience on data manipulation
- Gained valuable insight on the pandas, matplotlib and seaborn

Brain tumour segmentation | keras, tensorflow, U-net — Bangalore, India
Personal *project* — June 2023

- Developed and implemented a brain tumour segmentation pipeline using the SegNet architecture to identify and segment tumour regions in MRI scans.
- Trained SegNet on annotated brain tumour datasets, leveraging TensorFlow/Keras, with custom loss functions to handle class imbalance.
- Optimized model performance through hyperparameter tuning, including learning rate scheduling, batch size adjustments, and early stopping

StockSense | expo-cli, ReactNative, sklearn, flask — Bangalore, India
Hackathon group project — May 2023

- Built a full stack mobile application using ReactNative's expo-cli framework with typescript in order to monitor and predict stock trends using the AlphaVantage API
- Implemented machine learning techniques such as logistic and linear regression in order to predict future stock trends based on given data

PUBLICATIONS

- Privacy-Preserving and Efficient Border Surveillance System using Advanced Deep Learning and Cryptographic Techniques — DOI: 10.1109/I-SMAC61858.2024.10714893
- Machine Learning Optimisation: Adaptive Hessian–free optimisation — DOI: 10.17148/IJARCCE.2024.13653
- A comprehensive biblometric analysis of natural language processin — DOI: 10.17148/IJARCCE.2024.13617
- HarmoneyNet: blockchain technology for sustainability and scalability — DOI: 10.17148/IJARCCE.2024.13653

SKILLS

TECHNICAL SKILLS:
Python for machine learning, stats and data analysis: Pandas, PyTorch, scikit-learn, yolov5, huggingface, transformers, matplotlib, seaborn, numpy, scipy, keras
Data structures and algorithms: Python, Javascript, Java, C++
Full stack development: HTML, CSS, JavaScript, React, React Native, NextJS, mySQL, MongoDB, Firebase, MERN, Django
Version control and collaboration: git, github

SOFT SKILLS: Leadership, communication skills, problem solving, collaboration and teamwork, decision making