Srishti Singh

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Skills

Programming: Python, C, C++, C#
DL Frameworks : PyTorch, TensorFlow, Keras
ML Libraries: Numpy, Pandas, Scikit-learn, OpenCV, MediaPipe
Cloud : AWS(EC2, S3, Route 53), GCP(Compute Engine, Cloud Run, Storage)
Devops : Docker, Docker Compose, Apache, Nginx, Linux, WHM, CPanel
Web : Flask, FastAPI, ReactJS, NextJS, JavaScript, HTML, CSS
Tools: Git/Version Control, VSCode, Jupyter, PyCharm, Postman

Work experience

Senior ML Engineer, Buyume, *Delhi, India* *[June 2023 - Present]*

Projects:

AI/AR Virtual Try-On Application

Leading the development of an innovative AI/AR application for virtual hair color, virtual beard, and makeup try-on for the beauty and cosmetics industry.

AI Skin Analysis Tool

Spearheaded the development of an AI solution to identify various skin conditions (acne, spots, dark circles, wrinkles, etc.) and suggest recommended skin products.

Skincare Recommendation Engine

Integrated our skin analysis application with OpenAI APIs to build a personalized skin care recommendation engine.

Responsibilities:

- Leading a team of junior developers in exploring and implementing a wide array of deep learning and computer vision projects utilizing GANs, transformers, object detection, image segmentation, etc. This involved hands-on work with various neural network architectures such as MobileNet, U-Net, YOLOv8, and Faster R-CNN, and popular GAN architectures such as Pix2Pix, CycleGAN, StyleGAN, etc.
- Established comprehensive pipelines covering data collection, annotation, training, deployment and utilized tools like ClearML for streamlined management of logging and experiments.
- Performed various model optimization techniques such as quantization of ML models for efficient execution on edge devices with limited computing power.
- Implemented Docker and CI/CD processes for the automated deployment of inference services.
- Managed cloud environments on GCP and AWS, optimizing costs(90%) by analyzing CPU/GPU usage and exploring serverless options like GCP Cloud Run, AWS Amplify, etc.
- Managed both front-end and back-end software development efforts (of Web and Mobile applications), ensuring seamless integration and efficient performance.

Technologies: PyTorch, TensorFlow, MediaPipe, FastAPI, RestAPI, ReactJS, NextJS, AWS, GCP, Docker

AI and Robotics Engineer, Karman Drones, *Noida, India [Nov 2022 - June 2023]*

Projects:

Warehouse Inventory Tracking

Developed a computer-vision based system for an autonomous drone capable of detecting, counting, and tracking cartons and pallets in a warehouse using object detection algorithms and depth estimation.

Customized Ground Control Software

Developed a tailored GCS system to address the company's specific requirements with innovative features and functionalities currently absent in the market.

Responsibilities:

- Developed an end-to-end deep learning pipeline for detecting and counting carton boxes and pallets stacked in a warehouse, integrated into a quadcopter utilizing Raspberry Pi, Pixhawk, and Intel's RealSense Depth Camera Sensor.
- Trained object detection models on custom data sets of carton boxes and pallets, counted objects using depth information from the RGB-D camera, and built an OCR system to read SKU Labels/texts from the carton boxes using OCR APIs.
- Developed a Ground Control Software System for complex mission planning, obstacle/geofence building, path planning, and status monitoring, incorporating new custom features and functionalities.
- Integrated real time object detection and tracking module using OpenCV and Libtorch C++ library in the QT based GCS application.
- Developed and deployed the currently live website of the company using front-end technologies.

Technologies: Python, PyTorch, OpenCV, Tesseract API, C++, QT, QML, ReactJS, NextJS, AWS

AI Research Engineer, iHUB(IIIT-H), *Hyderabad, India [Oct 2021 - Oct 2022]*

Projects:

Pothole Detection and Counting: Developed machine learning algorithms for automated identification and mapping of road safety hazards, such as potholes, waterlogging, poor road surfaces, and other conditions of interest using YOLO, DeepSort, and other computer vision techniques.

Traffic Violations Detection: Designed and implemented a system to detect, track, and count traffic violations on unconstrained roads, including helmet detection and triple riders detection on motorcycles, using YOLO, curriculum learning-based model training, and a trapezium-shaped bounding box approach.

Responsibilities:

- Scale up Proof-of-concept (POC) applications using state-of-art implementations in Machine Learning and Deep Learning, trained object detection and object tracking models on pothole and traffic data collected and improved its performance on unseen data.
- Performed extensive pre and post analysis over the input data and predictions from the object detection models, productionized the pipeline, integrating all the components in a Django web application to facilitate future research.

Technologies: Python, Django, PyTorch, Tensorflow, Keras, Folium, OpenCV, CUDA, YOLO, DeepSort

Machine Learning Engineer, Peepstake Pvt. Ltd., *Hyderabad, India [Jun 2019 - Jan 2021]*

Projects:

SpearSocial: A social media monitoring, analytics and statistics tool which reports global and local trends and growth statistics of a user for their social networking app: YouTube & Twitter.

Project TIO: Tio was a no-swipe social networking and dating hybrid mobile app, matching people with the help of mathematical algorithms and machine learning.

Responsibilities:

- Responsibilities include building end-to-end data science pipelines that involve gathering data, data preprocessing, exploratory analysis, text processing, further used for advanced analytics.
- Scraped social media data using third-party APIs (YouTube API, Twitter API) and applied text processing techniques such as sentiment analysis, named entity recognition, etc. on comments and tweets to provide data-driven metrics using visualizations.
- Developed backend scripts integrating third party APIs and SDKs into the web application for near real-time data analysis, and deployed the application on Apache-Linux Server and on AWS.

Technologies: Python, Regex, Plotly, SpaCy, NLTK, TextBlob, Gensim, VADER, Selenium, BeautifulSoup, Flask, NodeJs, JSON, MySQL, MongoDB, OAuth 2.0, YouTube API, Twitter API, Twilio API, Google OAuth, Socket.io, Heroku, WHM, CPanel, AWS(EC2), Firebase

Education

ICFAI Foundation for Higher Education (IFHE), Hyderabad, India • B.TECH in CSE • 2015- 2019 • CGPA: 8.87/10 • with **Merit Based Scholarship**