Pratik Luitel

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Education

IOE, Pulchowk Campus, Bachelors in Electronics and Communication Engineering GPA: 3.7 CGPA November 2016 | September 2021 Lalitpur, Nepal

Professional Experience

Ensemble Matrix Pvt. Ltd., Automation Engineer November 2021 | Present Kathmandu, Nepal

- Led the engineering team of a cheque clearing automation product
- Implemented web scraping and automation algorithms in beautiful soup and selenium that cut processing time per cheque by 70%
- Optimized the image preprocessing pipeline for a signature verification model that achieved a matching accuracy of 96% on real life data
- Implemented an ensemble feature matching algorithm which achieved an accuracy of 98% in matching logos and stamps
- Led the migration of the project to microservice architecture using docker
- Wrote core backend logic for the system's REST API in django

Deerwalk Inc., Associate Data Engineer Kathmandu, Nepal

May 2021 | November 2021

- Was involved in the ETL pipeline and Data Analysis of US Healthcare data
- Extracted raw data files placed by vendors in S3 buckets using SQL and MS Excel
- Standardized data to the warehouse standard fields by analyzing it using SQL and performing required transformation using an in-house transformation software
- Onboarded standardized data to Amazon Redshift data warehouse
- Performed research on data using SQL to make sure the product aggregates aligned with the client's reporting
- Performed exploratory research on data using python pandas and numpy to derive insights from data
- Prepared reports on the insights gained from research to clients (various US data vendors)
- Presented key insights in the form of visualizations made through matplotlib to clients

Other Experience

LOCUS, Projects Manager Lalitpur, Nepal September 2019 | April 2020

- LOCUS is a non-profit that organizes Nepal's largest student-led tech exhibition, visited by over 20 thousand people
- Managed mentors and resources for 82 projects present in the LOCUS exhibition
- Educated the participants on Sustainable Development Goals (SDGs), collaborating with various United Nations agencies in the process
- Performed Quality Assurance, ensuring the projects worked on achieving SDGs

Projects

Quadcopter geofencing simulation using ROS, rospy, shapely, CoppeliaSim https://github.com/pratikluitel/ros-geofencing

- Implemented a custom drone controller in Lua, using CoppeliaSim simulator
- Wrote a custom 2D path planning plugin for Quadcopters using rospy and shapely
- Thoroughly tested the system on Kathmandu geojson data

Elephant Detection and Alarm System, scikit-learn, keras

A research project to mitigate Human Wildlife Conflict in rural Nepal

- Collected primary data from elephants using a custom-built IMU sensor
- Performed exploratory data analysis to determine the optimal algorithm for elephant stampede detection from among various techniques
- Wrote the core anomaly detection logic in scikit-learn

Asthir - Island terrain generation, processing, controlP5

https://github.com/anmolpdl/asthir

- Worked on an island generator as a part of an academic computer graphics project in processing
- Implemented a perlin noise generator for generating a realistic simulation of terrain and water
- Wrote the core logic for the camera, camera projection and FOV
- Designed and implemented the user interface for changing the simulation parameters using controlP5

Awards

Runner Up, DandyHacks, Major League Hacking, University of Rochester 2020 https://devpost.com/software/drow-z

- DandyHacks is a hackathon organized by University of Rochester, New York
- Built a working drowsiness detection and alert system using opency
- Worked on algorithms to make the system adapt to differences in facial features

Skills

Data Analysis: numpy, pandas, geopandas,

SQL, matplotlib, geoplot

Image Processing: opency-python

Deployment: tensorflow-serving, multi-model-server, docker

Backend: django, flask

Web Scraping: selenium-python, beautifulsoup Tools and PM: git, scrum, agile, CI/CD
Other languages, frameworks: tensorflow, nodejs, html, css,

ReactJS, React Native

Interests

Video games, Reading history, Playing guitar, Writing