Suraj Tripathy

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Education

IIIT Bhubaneswar Bhubaneswar, India

Bachelor of Technology in Electronics and Telecommunication Engineering *June 2019*

7.53

Experience

Python Developer Engineer Feb 2021 – Present

Animaker *Bangalore, India*

- Built custom Thumbor implementation for dynamic watermark filter
- Re-designed the authentication flow for dashboard APIs and added extra time based security
- Designed and implemented api-secret based access for 3rd party integrations with Hubspot and Salesforce
- Designed system wide event triggering and storing pub/sub architecture using Kafka.
- Created system wide webhook integration system for event triggering
- Added provisions to provide "guides" to new users

Software Engineer Jan 2020 – Feb 2021

GeoSpark *Bangalore, India*

- Built the GeoSpark Python SDK based on pub/sub architecture from scratch and was responsible for maintaining it at PyPI
- Re-engineered the pipeline for server side location updates from devices using AWS IoT and Kinesis data streams.
- Implemented "Smart Home and Work detection" API which has more than 10K requests per month
- Implemented "Nearby" API which allows users to fetch nearby users within a radius
- Introduced a Kalman filter based dynamic position estimation algorithm which improved the location accuracy by 20% under poor-GPS conditions
- Initiated a custom snap-to-road location matching algorithm based on OSRM services which reduced location drifts by 35%
- Implemented a custom location visualization tool based on Kepler.gl for data visualization of internal team.
- Implemented S2S Event logging for internal Data Attribution, User management, Digital targeting in AppsFlyer, Branch, Clevertap, Adjust
- Established business rules for User Suspension, Customer ticket reduction
- Implemented a Spring-boot based micro-service to send and receive messages and events to and from a Kafka Cluster deployed in EC2 instance
- Enabled Kafka-connect service to log events to AWS S3

Associate System Engineer July 2019 – Jan 2020

IBM *Bangalore, India*

- Trained as a SAP MM Package Specialist

Skills

Languages: Python, Java
Frameworks: Django, Flask, Spring Boot
Databases:: MySQL, MongoDB, Redis, Elasticsearch
Cloud Technologies:: AWS S3, AWS EC2, AWS Lambda, AWS Elasticache, AWS IoT
Developer Tools: Git, VSCode, PyCharm, IntelliJ, Postman, Robo3t, Kibana, Docker
Libraries: Pandas, PyMongo, Scikit-Learn, OpenCV, Deep Leaning with TensorFlow

Internships

Summer Research Intern May 2018 – July 2018
IIIT-Allahabad *Allahabad, India*

- Developed an algorithm to calculate the "Optical Flow" among consecutive frames of a video
- Applied SVM and Decision Tree as classifiers to the extracted feature vector to detect Autism in a child

Teaching Assistant June 2017 – July 2017
Nettech Team *IIT KGP, India*

- Oversaw the day-to-day management of the Network Security program being attended by 150 students from various universities.

Summer Intern May 2017 – June 2017
Defence Research and Development Organisation *Chandipur, India*

- Successfully integrated IR sensors and cameras for obstacle detection of an ATmega16 based pathfinder
- Designed a dynamic algorithm using GPS positioning to enhance the existing positioning system.

Academic Projects

Gesture based interaction with 3D Objects using Leap Motion Controller

- Designed a custom CNN model using TensorFlow with Python to classify hand gestures acquired from the LEAP Motion Controller
- Designed a multi-thread pipeline to control the movement of the 3D object in tandem to the live feed from the LEAP Motion Controller

Video Synopsis

- Implemented the "Temporal median background subtraction" for removal of stationary background from videos
- Worked on Object detection and classification based on CNN using transfer learning
- Implemented creation of tubes in space-time for each object to create real time video summarization

Publications

1. S. Tripathy, R. Sahoo, A. K. Dash and D. P. Dogra, "Natural Gestures to Interact with 3D Virtual Objects using Deep Learning Framework," TENCON 2019 - 2019 IEEE Region 10 Conference (TENCON), Kochi, India, 2019, pp. 1363-1368, doi: 10.1109/TENCON.2019.8929637.