Animikh Aich

Computer Vision Engineer

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Location: Bangalore, India

Key Skills

Computer Vision
Deep Learning
Machine Learning
Tensorflow
Python

Initiation

Co-Founded "Team Technoids"
It is an Initiation with the aim to introduce the students of our college to the exciting world of Artificial Intelligence and Computer Vision through introductory workshops.

Events Organized

- 3-day Workshop on "***Introduction to Computer Vision & Deep Learning using Python***" | IEEE (Resource Person)
- 2-day Workshop on "***Machine Learning Basics using Python***" IEEE (Resource Person)
- 5-day Workshop on "***AI and Chatbots using Python***" | IEEE (Resource Person)
- 1-day "***RAS Hackathon-2017***" RAS | IEEE (Coordinator)
- 2-day Workshop on "***Into Circuits and Sensors***" | IEEE (Volunteer)

Experience

JUN 2019–Present *Computer Vision Engineer | Wobot Intelligence*

- Currently working as a developer in the **R&D** and **Product Development** Team.
- **Developed** and **deployed** several algorithms for real-time object detection, tracking, and classification on CCTV footage.
- Worked on **developing** a novel person reidentification algorithm, which is used to **re-identify** a person and hence calculate his accurate **wait-time** even when the object of interest suffers from lengthy occlusions.
- Currently working on **IP creation** by **leading** the **development** of an **optimized** person detector, **fine-tuned for CCTV footage**, as well as creating object detectors for other custom objects.
- Additionally, I am working on the **optimization** and **deployment** of Deep Learning models **at scale** for both **edge** and **cloud**.
- Hands-on with optimized deep learning libraries like Intel's **OpenVINO** and **Tensorflow Lite**.
- **Deployed** several models on **servers** by integrating them with **Flask** and **Tensorflow Serving APIs**. Additionally, used **Docker** for **containerized deployments**.
- **Conducted** the **technical round of interview** for new recruits.

JUL–AUG 2019 *Freelance Technical Blogger | KnowledgeHut*

FEB–JUL 2019 *Freelance Technical Blogger | ZeoLearn*

JAN–MAR 2019 *Data Science Intern | KrishiHub* (*Letter*)

- Developed and tested *Machine Learning* models for **Time Series Price Forecasting**.
- Tested models on *ARIMA* for **Time Series Price and Demand Forecasting**.
- Developed *LSTM Network* Models for **Price Forecasting**.
- Developed *CNN* Model for **Plant Disease Classification** and achieved 94% Validation Accuracy.

JAN 2018 *Artificial Intelligence Intern | KnightsRoboCorp* (*Certificate*)

- Developed *Sentiment Analysis* Model using **Naïve Bayes Classifier**.
- Developed a GUI based *Text Summarizer* using **PyQt**.
- Developed a GUI based *Language Translator* by scraping Google Translate Webpage using **PyQt**.

Publications (*Google Scholar Link*)

- "**Sentiment Analysis of Restaurant Reviews using Machine learning Techniques**" | ICERECT-2018 | *Springer* (*Link*)
- "**Analysis of Customer Opinion Using Machine Learning and NLP Techniques**" | ICCS-2018 | *Elsevier* (*Link*)
- "**Sales-forecasting of Retail Stores using Machine Learning Techniques**" | CSITSS-2018 | *IEEE* (*Link*)
- "**Encoding Web-based Data for Efficient Storage in Machine Learning Applications**" | ICInPro-2019 | *IEEE* (*Presented*)

Education

2015-2019 RNS Institute of Technology, Bangalore, IN
BE, Electronics and Communication Engineering | CGPA: 7.08

Projects – College / Personal

Automatic Helmetless Rider Detection using Deep Learning | Final Year Project | *(YouTube)*
Developed a complete end-to-end project, primarily based on Object Detection. The goal was to detect the two-wheeler riders without a helmet and identify their number plates to report to the traffic authorities.

Classification of Normal and AF ECG Signals using Convolutional Neural Networks | (*GitHub*)
As a hobby project, built a custom model to classify if a patient has *Atrial Fibrillation* using *Convolutional Neural Networks and Multi-Layer Perceptron*. Was able to achieve an architecture with *14.7M parameters and 93.10%* validation accuracy.

Invisible Cloak using OpenCV | (*GitHub*)
This project was primarily developed as a hobby project and the Algorithm is custom developed. The aim of this project is purely for recreational purposes and this was one of the few projects that were taught by us during the most recent Computer Vision workshop that we conducted.

GUI Based University Result Downloader App using Python & Web Scraping | RNSIT ECE | (*YouTube*)
Developed a GUI based (using PyQt) Python desktop application for the Dept. of ECE, RNSIT. The app can download the results of any given range of USN using web-scraping techniques from the University website and save them locally in the form of an excel spreadsheet.

Facial Recognition Based Door Lock/Unlock System | Internship at "The Valley Bootcamp" | (*GitHub*)
Developed a system where in the face of the person requesting to enter has his/her face registered in the database, the door would automatically open, letting the person enter the premises. The same is notified to the Admin through SMS. The admin can open the door manually for any unrecognized guest(s) through commands sent via telegram bot. Hardware was implemented using Arduino.

Other Projects

- Word-based **Sentiment Analysis** Model using **Naïve Bayes Classifier** [MAR 2019] (*GitHub*)
- **Instagram Scrape** – To scrape the followers' **Instagram ID** and the details of each Instagram follower. [JUL 2018]
- Tested the accuracy of various **Machine Learning Algorithms** on the **Iris Dataset**. [JUN 2018]
- **IMDb Review Scrape** & **Data Preprocessing** for Sentiment Analysis. [APR 2018]
- **Text Summarization** Algorithm with GUI. [MAR 2018] (*GitHub*)
- **Web Scraping Project** – Translator with GUI. [MAR 2018] (*GitHub*)
- Volumetric Statistical Estimate Preparation Instrumental Analysis (VSEPIA). [MAR 2018] (*GitHub*)
- Developed an **AIML based non-intelligent chatbot** as a user-friendly shopping assistant. [JAN 2018]
- **Gaana Playlist Downloader** using **Web Scraping** techniques. [JAN 2018]
- Automatic Kitchen Safety Mechanism [FEB 2017]

Honors & Achievements

- Secured **1st prize** at **Wobot Hackathon** for developing a **Full Stack end-to-end** system based on Computer Vision. (*Link 1*, *Link 2*)
- Received **Best Outgoing Student - 2019**, from RNS Institute of Technology. (*Link*)
- Received **Letter of Appreciation** from HoD, ECE, RNSIT for my contribution to the institution. (*Link*)
- Secured **1st prize** in the Software category for "*Automatic Helmetless Rider Detection*", RNSIT. (*Link*)
- Secured **2nd prize** across all categories for "*Automatic Helmetless Rider Detection*", RNSIT. (*Link*)
- Secured **Best Paper Award** at 3rd ICERECT-2018 (*Link*)
- Secured **1st prize** in Social Impact category for *"VSEPIA"* at ECE Open House Expo 2018, RNSIT. (*Link*)
- Secured **1st prize** in Social Impact Category for *"Automatic Kitchen Safety Mechanism"* at ECE Open House Expo 2017, RNSIT. (*Link*)