

Ankit Sinha

Email: ankitdipto@gmail.com

Linkedin: <https://www.linkedin.com/in/ankitdipto/>

Github: <https://github.com/ankitdipto>

Mobile No. +91-6388720025

EDUCATION

- **Indian Institute of Technology (BHU), Varanasi** Varanasi, India
B.Tech in Computer Science and Engineering, GPA: 9.67/10.0 Aug 2018 - May 2022
- **M.P. Birla Foundation Higher Secondary School** Kolkata, India
Class XII : 9.68/10.0, Class X : 9.66/10.0 Apr 2006 - Mar 2017

SKILLS

- **Languages:** Python, C/C++, Java, GoLang, SQL
- **ML Toolkits:** PyTorch, Pytorch Lightning, Keras, Tensorflow

EXPERIENCE

- **Oracle Cloud Infrastructure** Bengaluru, India
Member Of Technical Staff Jul 2022 - Current
 - **Automation of Anomaly Detection Benchmarking:** Working on an automation pipeline to benchmark large-scale experiments for the Anomaly Detection team. I am currently focusing on integrating an Oracle Autonomous Database to pipeline backend. Our final mission is to provide a unified Benchmarking Solution to all the AI services - Vision, Language, Anomaly Detection, Speech and Forecasting.
- **iRage Capital LLP** Mumbai, India
Software Development Intern May 2021 - Jul 2021
 - **Distribution of Simulation Workloads on multiple VMs:** Worked on distributing the simulation of algo-trading strategies across multiple virtual machines. I was responsible for writing scripts to build docker images of the respective strategies and pushing them to a private registry. I also implemented a Web-server that would pull in those images, launch them as pods on a Kubernetes cluster and finally collect the resulting log files.

PUBLICATIONS

- **A.Sinha, S.Bannerjee, P.Chattopadhyay.** Effective Stacking of Deep Neural Networks for Automated Product Recognition in Retail Stores. *16th International Conference on Image Analysis and Processing (ICIAP)*. 2022
- **A.Sinha, P.Chanak.** An Intelligent Vehicle Navigation scheme for Swift Movement of Emergency Vehicles in IoT-enabled Transportation System. 2022 (**review**)
- **P.Chanak, A.Sinha.** An IoT-enabled low-cost, portable and real-time traffic congestion monitoring device for smart transportation. *Indian Patent Application No - 202111039295*. 2021 (**review**)

PROJECTS

- **Neural Trojan Detection** CodaLab
NeurIPS 2022 Competitions Track Jul 2022 - current
 - Trojans planted inside deep neural networks are much harder to detect as compared to traditional software due to the inherent black-box nature of such models.
 - This challenge aims to draw community efforts towards making neural networks robust to ransomware and adversarial attacks.
- **CityLearn Challenge 3rd Ed.** AI crowd
NeurIPS 2022 Competitions Track Jul 2022 - current
 - Cities and districts go through periods of high electricity demand which raises the overall cost of power distribution.
 - Energy storage devices like batteries can reduce peak loads of the grid while solar PV generation can meet energy demands considerably. But such resources must be managed effectively to flatten the electricity demand curve.
 - So far I have implemented a custom Soft-Actor Critic model which out-performs a random agent. However, rule-based controllers backed by good heuristics seem to perform better in this environment.

- Headline & Sentiment Generation**

IIT Guwahati

 - NLP Hackathon, Inter IIT Tech Meet 9.0**

Feb 2021 - Mar 2021

 - In a team of 7, I primarily focused on the sub-task of extracting subject-specific sentiments from multilingual tweets.
 - My work included data cleaning, synthetic data generation, fine-tuning BERT checkpoints and dependency tree parsing of sentences.
- Product Recognition in Retail**

May 2021 - Feb 2022

 - Advisor: Dr Pratik Chattopadhyay**
 - Implemented a two-stage pipeline for accurate object detection in retail stores. Our architecture consisted of a Faster R-CNN with FPN based localizer and a ResNet-18 embedder, both trained separately.
 - We surpassed state-of-the-art methods on some of the standard metrics. This work has been accepted in the upcoming ICIAP 2022.
- Document-Image Separation**

Course Project

 - Data Mining, Advisor: Dr Bhaskar Biswas**

Aug 2020 - Nov 2020

 - Designed an end-to-end pipeline to extract and classify scanned documents from an image database with the help of OCR and NLP.

HONORS AND AWARDS

- **Finalist**, Fatima Fellowship, Sponsored by HuggingFace 2022
- **Silver Medal**, Automatic Headline and Sentiment Generation event at Inter-IIT Tech Meet 9.0 2020
- **Gold Medal**, Chess Championship at Spardha'19, Institute's Annual Inter College Sports' Fest 2019
- **Best Player Board 5**, Inter IIT Chess Meet held at IIT Guwahati 2018
- **Bronze Medal**, Chess Championship at Spardha'18, Institute's Annual Inter-College Sports' Fest 2018
- **Institute Rank 9**, Semester 1 and awarded a change in discipline from EE to CS 2018

PROFESSIONAL DEVELOPMENT AND OTHER ACTIVITIES

- **Mentorship**: Soham Banerjee, Vasu Goyal and Pratyush Aggrawal.
- **Volunteering**: International Conference on Web Search and Data Mining, WSDM 2022.
- **Certification**: Certificate of competency in *Fundamentals of Deep Learning* by NVIDIA DLI.