

# Ankit Sinha

[ankitdipto@gmail.com](mailto:ankitdipto@gmail.com) || <https://ankitdipto.github.io> || Mobile No +91-6388720025

## EDUCATION

---

**Indian Institute of Technology (BHU), Varanasi**

B.Tech, *Computer Science and Engineering*

Jul 2018 - May 2022

*CPI: 9.68/10.0*

## SKILLS

---

- **Languages:** Python, C/C++, Java, GoLang, SQL
- **ML toolkits:** PyTorch, Keras, JAX
- **Tech Stack:** Docker, Kubernetes, Kubeflow, Bokeh, Airflow

## EXPERIENCE

---

**Oracle Health & AI**

*ML Engineer (IC-2) · AI Data Organisation*

Bengaluru, India

*Jul 2022 - Current*

- Currently developing an *Active Learning* pipeline for the Annotation Review Tool (ART), an internal data labelling platform with over **1K** active users. This ML capability is expected to speed up the annotation workflow.
- Successfully deployed the backend of *Synthetic Data Generation* Playground on Oracle Kubernetes Engine (OKE) and exposed it via a LoadBalancer to external traffic.
- Conducted a thorough hands-on evaluation of the Kubeflow ecosystem (Pipelines, Fairing, KFServing) for various ML workloads on Kubernetes platform.
- Designed impactful dashboards with Bokeh, to benchmark the performance of OCI Anomaly Detection service endpoints.

**iRage Capital LLP**

*SDE Intern · Trade Simulation Infrastructure*

Mumbai, India

*May 2021 - Jul 2021*

- Implemented an end-to-end pipeline to manage Algorithmic Trade simulation jobs on a Kubernetes cluster.
- Set up and hosted a private Container Registry based off *Harbor*, a CNCF-sponsored open-source project.
- Automated the workflows for image building, image publishing, logging and job monitoring on the cluster.

## 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**)

## SELECT PROJECTS

---

**CityLearn Challenge 3rd Edition**

*Obj: Optimization of Grid Energy Utilisation*

NeurIPS, 2022

*Competitions Track*

- Initially coded a rule-based baseline controller and then implemented an RL agent (**Soft-Actor-Critic**) from *scratch*.
- Finished within the top **30%**. The winning solutions leveraged energy forecasting and model-based RL.

**Headline & Sentiment Generation**

*NLP Hackathon, by Bridgei2i Analytics*

IIT Guwahati

*Inter-IIT Tech Meet*

- Focused on the sub-task of extracting subject-specific sentiments from multilingual tweets.
- Collected open-source datasets, fine-tuned BERT checkpoints and trained TF-IDF based SVMs.

## Computer Vision in Retail Settings

Advisor: Dr Pratik Chattopadhyay

- Proposed a two-stage pipeline consisting of **Faster R-CNN FPN localiser** and **ResNet-18 embedder** to precisely identify diverse retail items on densely packed rack shelves.
- Surpassed the previous state-of-the-art results by  $\approx 5\%$  and  $\approx 3\%$  on the metrics mAP@0.5 and PR@0.5 respectively.

## Document Mining & Understanding

Data Mining project

Advisor: Dr Bhaskar Biswas

- Designed an end-to-end pipeline to extract and classify scanned documents from a bulk of natural images.
- Performed OCR with tesseract, pre-processed the textual contents, encoded them as **GloVe** embeddings and finally passed into a Keras neural network for classification.

## HONORS AND AWARDS

---

- |   |      |
|---|------|
| • <b>Silver Medal</b> , Automatic Headline and Sentiment Generation event at Inter-IIT Tech Meet 9.0    | 2020 |
| • <b>Gold Medal</b> , Chess Championship at Spardha'19, Institute's Annual Inter College Sports' Fest   | 2019 |
| • <b>Best Player Board 5</b> , Inter IIT Chess Meet held at IIT Guwahati                                | 2018 |
| • <b>Bronze Medal</b> , Chess Championship at Spardha'18, Institute's Annual Inter-College Sports' Fest | 2018 |
| • <b>Institute Rank 9</b> , Semester 1 and awarded a change in discipline from EE to CS                 | 2018 |

## PROFESSIONAL DEVELOPMENT AND OTHER ACTIVITIES

---

- **Volunteering:** International Conference on Web Search and Data Mining, WSDM 2022.
- **Certification:** Certificate of competency in *Fundamentals of Deep Learning* by NVIDIA DLI.