ABHISHEK|ME19B069| Indian Institute of Technology, Madras

Email: [me19b069@smail.iitm.ac.in](mailto:me19b069@smail.iitm.ac.in) Profiles: [LinkedIn](https://www.linkedin.com/in/thakur-abhishek-sain-3013591a1/), [GitHub](https://github.com/Abhis-123/)

# WORK EXPERIENCE

**Machine Learning Researcher Intern, Go Data Insights** June 2021 - Aug 2021

* ***Project GREEN SCORE*:** Built a system with which one can calculate the greenery score of an area with **longitude, latitude**, and radius. Built algorithm for calculating the green score. Used open street map API to fetch the data for the algorithm. Calculated the greenery of an area accurately up to **1km.** [Blog](https://www.godatainsights.com/post/track-delhi-sustainable-development-goal-greenest-area)
* ***Project FIRE COUNT PREDICTION*:** Analyzed NASA’s fire data from the **MODIS satellite**. built a fire count prediction system for a region (a longitude, latitude bounding box). Worked with a dataset of around **4 million rows** [Blog](https://www.godatainsights.com/post/monitor-forest-fire-risk-for-insurance-purposes)
* ***Project CRYPTO PRICE PREDICTION*:** Built a stock price prediction system. But This is different from general stock price prediction systems because it also considers the effect of current news sentiment and shows its effect on prediction too. [Blog](https://www.godatainsights.com/post/fin-social-analysis-of-rising-cryptocurrencies)
* Created a robust **python package** for the projects which was directly inserted into the **company’s backend**.

##### Machine Learning Developer Intern, FTS (Failure to Success) June 2021 - Jul 2021

* Worked on daily and hourly air composition dataset consisting of **1000000 rows**. Analyzed data and built a ML algorithm and calculated **Air Quality Index** from gaseous composition.
* Built an **LSTM** based time series prediction algorithm on **city-by-hour** data.

**Full Stack Developer Intern, Jivass Technologies**  Apr 2021 - June 2021

* Worked on ReactJS for frontend and Django for backend, the user database was PostgreSQL Created React Web Application. Worked a codebase of around **1GB**. Project Included **Dummy** Data Creation, **Primary** **Dashboards** for **Customers**, **Supervisors**, and Super admin.
* Created Website till alpha phase, as per client demands

**Backend Developer Intern, Chillitray Technologies Feb 2021 - Apr 2021**

* Worked on building **token** and **OTP-based** authentication systems with sessions. Implemented HTTP **authorization**
* Created API s for sending **SMS’s, Emails** for verifications of accounts. Built different types of media and other types of **API’s** as per needs

# PROJECTs

**Reverse Image Search Engine, GoDataInsights, Currently Working**

* The aim of this project to create image + text base search engine for product recommendation.
* Implemented a VGG-16 feature vector-based image vs image comparison system which increase search speed by **10X.**
* \* Experimenting with different similarity matrices to improve results.

**Project FND, Self,** [Link](https://github.com/Abhis-123/Project-FND)

* The aim of this project is to classify news articles fake or real.
* To get the accurately classified collection of news as real or fake I have built a deep learning **LSTM based** model. After using many training techniques, I got a **validation accuracy** of **0.9387%** with **training accuracy** of **0.9538%.**

**Text To Image Generator, Self**, [Link](https://github.com/Abhis-123/TextToImage/tree/torch_version)

* The aim is to convert a written text (like “a blue flying bird”) into an image. NLP is used to extract a feature vector from the text description.
* Used GAN to create image from combination of **text embedding (1024)** and **random latent vector (100)**.

**Deep Convolutional Generative Adversarial Network** , [Link](https://github.com/Abhis-123/DcGAN)

* The aim of this project is to build model with which one can generate new images after training the model. I implemented DCGAN architecture from its original paper.
* During training model was found robust to result on addition of new images to training set.

# SKILLS AND KNOWLEDGE BASE

Programming Languages: Working With- C++, Python, SQL, Worked With- Java, HTML, CSS, JavaScript, PHP, Django, React

**Data Science Skills:** Feature Engineering, Machine Learning, Deep Learning

**Python Libraries:** NumPy, Pandas, Matplotlib, Scikit-Learn, TensorFlow, cuDF\*, pytorch\* \* - currently working

**Other:** Git, Jenkins, AutoCAD

# RELEVANT COURSEWORK

* Deep Learning#
* Introduction To Data Analytics\*
* Probability and Statistics for Data Science#
* Introduction to C Programming
* Multivariable Calculus
* Differential Equations
* Series and Matrices
* Machine Learning Specialization, Washington University (Coursera)#
* Strength of Materials
* Measurements and Instrumentation
* Introduction to Applied mechanics

# Online

\* Current semester

# EDUCATIONInstitute Degree Timeline CGPA/%

Bachelor of technology, IIT Madras Mechanical engineering 2019 – 2023 7.91

Maa, Sarasvati School, Kaithal 12th Standard 2017 – 2018 89.8

Government School, Kaithal 10th Standard 2015 – 2016 86.4

# HACKATHONS

# Deep Learning Hackathon, IIT Madras Apr 2021

* 2nd Rank
* Deepfake Image classification.
* Developed a convolution architecture with skip connections, interconnection, Depth wise separable convolutions.

**Univ- AI Hackathon, IIT Madras** Mar 2021

* Roc-AUC score of 0.869
* Data Augmentations, Feature engineering, classification. Used Stacking of 6 algorithms on top of a neural network.

**Shaastra Hackathon, IIT Madras** Jan 2021

* Object detection, character recognition. completed the solution

# POSITIONS OF RESPONSIBILITIESPR Manager, National Service Scheme, IIT Madras Mar 2021 - present

* Here working as a PR manager in PR Team of NSS IIT M
* Learning to interact with people of different backgrounds and thinking’s

##### Project Member In SBoard, Electrical club, CFI1, IIT Madras Mar 2020 - present

* Working in project SBoard as a project member in the software module.
* Learning about R-pi, ROS, and Embedded Systems.
* Did research for haptic touch and Ultrasonic feedback

##### WebOps Coordinator, Mechanical Engineering Association, IIT Madras Aug 2019 - Apr 2020

* Created templates for websites with a team.
* Improved user interface to give a better user experience

\* Currently Working, 1- Center For Innovation