ABHISHEK | Indian Institute of Technology, Madras

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# 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 that considers the effect of current news sentiment also and shows its effect on prediction too. [Blog](https://www.godatainsights.com/post/fin-social-analysis-of-rising-cryptocurrencies) .
* Created a robust **python package** with **Object Oriented Manner** for the projects which was directly inserted into the **company’s backend**.

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

* Analyzed daily and hourly air composition dataset consisting of **1000000 rows** 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

* Built application for monitoring electricity with help of technologies like **React Js** (for frontend), **Django**(backend), and **PostgreSQL**.
* Application 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

* Created various API with the help of PHP and MySQL and tested them using postman.
* Built token and OTP-based authentication systems with sessions.
* 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

# SKILLS AND KNOWLEDGE BASE

**Programming Languages:** C++, OOP, C, Python, SQL, Java, HTML, CSS, JavaScript, PHP, Django, React

**Data Science:** Feature Engineering, Statistics, data visualization, Hypothesis Testing, data analysis, data mining, Regression, Machine Learning: Linear Models, Tree Based Models, optimization, Object Detection, ANN ,CNN, RNN,LSTM, GAN

**Databses :** MySQL, MongoDB

**Python Libraries:** NumPy, Pandas, Matplotlib, Scikit-Learn, open-cv, TensorFlow, Pytorch

**Other:** Git, Jenkins, AutoCAD, Power Point, Excel

# PROJECTs

**Reverse Image Search Engine**

* The aim of this project to create image content base search engine for product recommendation. This was a paid project which I had done with a company.
* Implemented Auto Encoder feature vector-based image vs image comparison system which increased processing speed approximately by **4.8X.**
* Experimented with ResNets, EfficientNets, DenseNets, AutoEncoders and VGG16.

**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)**.

**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%.**

# RELEVANT COURSES

Introduction To Data Analytics\*(MS4610),

Probability and Statistics for Data Science#, Introduction to C Programming (CS1100),

Multivariable Calculus(ma1010),

Differential Equations(ma2020),

Series and Matrices(ma1020),

Measurements and Instrumentation(me2400),

Strength of Materials(am2200)

Introduction to Deep Learning#(CS7015),

Machine Learning Specialization, Washington University (Coursera)#.

: - #Online, \* Current semeste

# EDUCATION

## Institute Degree Timeline CGPA/%

Bachelor of technology, IIT Madras Engineering 2019 – 2023 8/10

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

Government School, Kaithal 10th Standard 2015 – 2016 86.4

# ACCOMPLISHMENTS

* Got 5987 rank in JEE Mains Examination out of 1.3 million students
* TensorFlow similarity contributor.
* 2nd Rank in college Deep Learning Hackthon

# 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.

# POSITIONS OF RESPONSIBILITIES

PR 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