

# ABHAY SINGH

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👤 [portfolio](#)

## Education

Indian Institute Of Technology, Dhanbad

Bachelors of Technology in Electrical Engineering

2018-2022

Dhanbad, India

## Experience

Reliance Jio Infocomm Limited

Software Engineer

July 2022 – Present

Bangalore, India

### AgriCare Fertilizer Recommendation System

- Designed and integrated structured **Protocol Buffer** schemas for seamless data serialization and deserialization utilizing **gRPC** for building communication channels.
- Implemented **GRule-Engine** for generating advisories for farmers from diverse datasets of soil health, crop types and environmental conditions leading to improved crop yield and cost savings.
- Automated rules template generation **reducing** new crop **on-boarding time by 80%**.
- Tech Stack:** *Golang* | *gRPC* | *Grule Engine* | *MongoDB*

### Satellite Imagery Resolution Enhancement

- Implemented Enhanced Super-Resolution Generative Adversarial Network (**ESRGAN**) model using **TensorFlow** for high-quality image enhancement from **10x10 meter to 2.5x2.5** meter resolution.
- Automated image retrieval process from **QGIS** eliminating need for manual downloads in acquiring geospatial imagery.
- Tech Stack:** *Python* | *TensorFlow* | Generative Adversarial Network

### Cattle Activity Classification Modelling

- Conducted exploratory data analysis (**EDA**) to understand the characteristics of dataset, implemented feature engineering, and model training pipelines with an accuracy of **78%** on validation dataset.
- Translated Python code to C for deployment on embedded systems.
- Tech Stack:** *Python* | *C* | *scikit-learn*

## Projects

Dev Overflow | *Next.js*, *React.js*, *Typescript*, *OpenAI*, *MongoDB*, *Tailwind CSS*

[Live Web App](#)

- Developed responsive Question and Answers platform where users can post queries with associated tags, receive community-driven responses and contribute to knowledge sharing.
- Incorporated state-of-the-art **OpenAI API's** to generate answers to user queries and added recommended posts feature for users based on their interaction with application.
- Implemented **global search** to fetch results from entire database and optimized application performance with advanced **filtering** and **pagination** mechanism.

Filmpire | *React.js*, *Golang*, *MySQL*

[GitHub Link](#)

- Developed basic CRUD web app with React front-end and Go back-end REST API powered by **JWT** authentication.
- Used **TMDB API** to fetch images.

## Technical Skills

**Languages:** C++, Golang, JavaScript, TypeScript, Python, Java, SQL

**Technologies/Frameworks:** Protocol buffers, gRPC, Rules-Engine, React.js, Next.js, Node.js, Express.js, Tailwind CSS, Android SDK, TensorFlow, MongoDB, Data Structures and Algorithms, DBMS, OS

## Extracurricular

Kartavya NGO

Sept 2018 – Jan 2020

Teaching | Logistics Management

During my time with Kartavya, had the privilege of educating underprivileged students and contributing to initiatives focused on collecting donated items like books, stationery, and clothing.

AIIESEC in Vietnam

May 2019 – July 2019

Teaching

Collaborated with Teachers, Administrators, and Locals as a volunteer in developing educational programs that aligned with United Nations Sustainable Development Goal 4 (Quality Education) objectives.