Abhay Singh

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Education

Indian Institute Of Technology, Dhanbad   **2018-2022**
Bachelors of Technology in Electrical Engineering   *Dhanbad, India*

Experience

Reliance Jio Infocomm Limited   **July 2022 – Present**
Software Engineer   *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

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.

Booking App | *Next.js, React.js, Typescript, Amazon S3, MongoDB, Tailwind CSS*   **Live Web App**
- Developed a places listing web app where user can browse and book places with intuitive calendars based on there availability for that particular time period.
- Integrated **Amazon S3** as cloud storage solution for efficiently storing images.

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

AIESEC 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.