

# ANSHUMAN NAYAK

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## EDUCATION

### IIT Kharagpur

Master of Technology Agricultural Systems and Management  
CGPA: 9.51

Kharagpur, India  
July 2020 - May 2022

### Orissa University of Agriculture and Technology

Bachelor of Technology Agricultural Engineering  
CGPA: 8.50

Bhubaneswar, India  
July 2016 - July 2020

## EXPERIENCE

### Carelon Global Solutions LLP | Software Engineer

Gurugram, India | Jul 2022 – Present

- Data-API Gateway
  - Lead developer of JS-based low code platform for Data API Gateway using Node JS.
  - Application can onboard any data source (SQL and NoSQL) with minimal effort within an hour.
  - Developed to support long-running and short queries and optimized to utilize resources efficiently for faster concurrent API responses (using GraphQL) with minimal cost to the business.
  - Data scientists and consumer-facing applications across the organization currently use the application.
- AutoML and Model Catalog
  - Maintained SDLC records of various health data models (versions and branches) and implemented cron-based alert systems to model product owners and deployment leads.
  - Maintained and debugged model development pipelines used by multiple consumer-facing teams inside the organization.

### N3xVerse Pvt. Ltd. | Lead full stack developer (PT)

Bhubaneswar, IN | Jan 2019 - Mar 2022

- Designed and built an Android social media app, optimizing image and video performance for a smooth user experience and seamless streaming.
- Developed a backend server using Node.js, incorporating server-less cloud functions to convert user-uploaded videos into various qualities. Successfully managed and scaled the NoSQL database.
- Implemented standard GraphQL and REST APIs, enabling the application to handle multiple concurrent sessions efficiently.
- Utilized Ionic framework for cross-platform development, supporting both Android and iOS.
- Demonstrated leadership skills by supervising a team of 5 interns and 2 full-time developers, ensuring the project's alignment with business requirements.
- Successfully served as a part-time lead while pursuing my bachelor's degree.

## SKILLS

Programming Languages & Scripts	Python, Node JS, TypeScript, C, PHP
UI Frameworks & Scripts	HTML 5, CSS 3, JavaScript, React JS, React Native, Ionic/Cordova
Backend Frameworks	Express JS, Koa, Flask, Next JS
API standards	GraphQL, REST
ML/ DL Frameworks	Pandas, Numpy, Tensorflow, OpenCV
Version Control	Git, GitHub, BitBucket
CI/CD	Terraform, GitHub Actions
Orchestration Tools	Docker, Podman
Cloud Services	AWS, GCP
Databases	MySQL, Mongo DB, Rethink DB, Firebase, Snowflake
Project Management Tools	Jira, Trello, Slack

## PROJECTS / OPEN-SOURCE

### Upstage | [Link](#)

NodeJS, Ionic, MongoDB, RethinkDB

- I developed Upstage, an Android social media application designed for seamless content sharing, including optimized image and video scripts to enhance the end-user experience and smooth streaming.
- The frontend of the application is built using React JS and Ionic.
- For the backend, I utilized Node.js with Express and GraphQL and implemented server-less cloud functions to enable conversion of user-uploaded videos into multiple qualities.
- Additionally, I managed and scaled a NoSQL database to ensure efficient data storage and retrieval.
- To prioritize user privacy, I implemented an end-to-end encrypted text messaging system for users. This was achieved using Socket.IO and RethinkDB.

- Currently, Upstage boasts a user base of over 7,000 individuals.

#### Mobile camera based plant disease detector | [Link](#)

JavaScript, Python, WebAssembly

- I developed an application aimed at detecting plant diseases by capturing a picture of the affected plant part.
- The application is designed to work both online and offline, making it highly beneficial for Indian farmers.
- The application is developed using technologies such as TensorFlow.js, Deep Learning, and OpenCV.js.
- To enable hosting and remote model updates, an ML pipeline was created using Flask and Python.

#### Next Generation Sports Battle

Cordova, NodeJS, MongoDB

- The application's purpose is to assist sports persons, gymnasium experts, and part-time players in creating communities and engaging in physical sports challenges.
- The development of this application utilizes Cordova with WebRTC for the frontend, while Node.js, Express, and GraphQL serve as the primary stacks for the backend.
- To ensure real-time data transfers, GraphQL subscriptions are implemented.
- The application leverages both RethinkDB and MongoDB to handle both real-time and static data transactions. In 2019, it underwent testing with 20,000 concurrent users.
- For hosting the application, AWS-OCP is utilized.

#### NexScanner | [Link](#)

JavaScript, Cordova

- Developed an application to scan documents, barcodes, and QR codes.
- The application uses OCR to read text from images.
- It is helpful for students to copy textbooks and digital documents easily to Microsoft Word.
- It also converts scanned pages to PDFs.

#### NetCdf2Csv | [Link](#)

Python, Xarray

- Developed an application and Python package to help climate data analysts convert NetCDF files to CSV files for analysis.
- Leveraged netCdf and Xarray packages as the foundation for developing this package.

#### MiroTalk | [Link](#)

JavaScript, WebRTC, MediaSoup

- Contributed to the development of speech-to-text and speech-based commanding features for the application.
- Mirotalk is a full-stack application for webRTC-based video calling

### SCIENTIFIC PUBLICATIONS | [Link](#)

- Application of smartphone-image processing and transfer learning for rice disease and nutrient deficiency detection (Elsevier | Smart Agricultural Technology 4, 100195)
- A smartphone-integrated imaging device for measuring nitrate and phosphate in soil and water samples (Elsevier | Microchemical Journal 193, 109042)

### CERTIFICATIONS

- Data Analytics with Python - [NPTEL](#)
- Responsive Web Design - [freeCodeCamp](#)
- Financial And Social Inclusion - [University of waikato](#)
- GIS and Its application with Python - NAHEP
- GraphQL Developer - Associate - [Apollo GraphQL](#)

### HONORS & AWARDS

- Silver Elite Award in Data Analytics by IIT Roorkee
- Scholar award for Digital Agricultural Technology by GSA, Kyoto Japan
- All India Rank 67 in GATE 2020
- Patent for smartphone technology that can detect of Nitrate and Phosphate in water and soil