## Educational Background

- B.Tech Silicon Institute of Technology, Bhubaneswar, 8.7 CGPA - 2023 - 🔗
- 12th FIITJEE Junior College, Hyderabad, 83.5% - 2018 - 🔗
- 10th DAV Public School, Jamshedpur, 9.2 CGPA - 2016 - 🔗

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## Work Experience

- **Founding Engineer/SDE-1** - *StackIt* Current - 🔗
  - Developed a Chrome extension that integrates with the StakIt Google Workspace application, enabling users to import CSV files directly into Google Sheets. Leveraged the Google Apps Script layer and utilized the available spreadsheet APIs.
  - Built the Data-Preview section in the Chargebee component to vizualize the data before importing it. Incorporated filters, joins, and v-lookups, to perform ETL operations. Wrote custom backend methods and modified the existing codebase to work with the new UI.
  - Implementing the data pipeline to import data from Hubspot to the Google Spreadsheet ecosystem.
  - Working on the CI/CD pipeline to automate the deployment of the application using GitHub Actions.
  - Creating multiple instances to abstract development and production layers using Docker, Kubernetes, and Google Cloud Platform.
  - Building natural language to SQL engines using LangChain, prompt engineering, GPT-3.5-turbo & GPT-4.
- **Full-stack Developer** - *Asymmetri* 2023 - 🔗
  - Implemented a dynamic PDF generator using react-pdf and react-pdf-highlighter.
  - Building a custom PDF viewer using Firebase SDK. Used Cloud Firestore as the database.
- **Full Stack Engineer** - *Squbix Digital* 2022 - 🔗
  - Designed and developed the Squbix Website. Refactored React-Native applications with better UI, implemented offline storage, and push notifications, and built an ERP app to monitor the attendance and tasks of employees.
  - Built backend APIs using NodeJs. Configured optional parameters to switch between different blockchains. Refactored the JS-based SDK to TypeScript and NodeJs. Built Chrome extension for wallet transactions. Used mocha for unit testing.
  - Modified the existing DID pallet using Rust & Substrate to store ID information in the blockchain with additional unit tests. Collaborated on the wallet transfer PWA to cater to the needs of existing users on the older blockchain.
- **Freelance Software Developer** - *Afixi Technologies* 2022 - 🔗
  - Set up a platform to handle DDEX submissions using Amazon AWS S3 & Go. Wrote a Python script to automate the uploading of music from the producer’s S3 bucket and automated the uploading of music on YouTube.
- **MLOps** & **React Internship** - *Ebibil Technologies* 2021 - 🔗
  - Collaborated on the Django web app to integrate with ML models for a smart parking system.
  - Implemented a PWA using React for the admin panel that manages the parking system.
  - Contributed to ML models in Python to build an ANPR system to detect the license plate with 67% accuracy.

- **Python Tutor** - *Triluxo* 2021 - 🔗
  - Tutored students on the basics of Computer Science, the web and programming using Python.
  - Built a Django back-end for a web application used by students to build apps using Python.
- **IoT - Summer Internship** 2021 - *Karkhana Makerspace* - 🔗
  - Built ideation of a smart soil monitor system using NodeMCU, Firebase, and sensors.
  - Built ideation of a home automation system using a relay, NodeMCU, wifi, and mobile app.
- **Cybersecurity - Summer Internship** 2020 - *Cybervie* - 🔗
  - Worked with live data to create a ransomware report and a phishing report.

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## Research

- Generative AI: LLMs, GANs, VAEs, Transformers, and more. Looking into the applications of ChatGPT4, fine-tuning GPT3, using embeddings, exploring the use of transformers, exploring LLaMA and other LLMs, and more. Working on Vertex AI, PaLM, text-bison@001, chat-bison@001, textembedding-gecko@001 and other Vertex AI projects.

## Projects

- Bee - A **tiny bit torrent client** written in TypeScript. Built to work with the movie recommendation system and the movie rating prediction system.
  - [*TypeScript, Web Sockets, NodeJs*] **-** *2023*
  - Wrote a bencode parser to parse torrent and magnet files
  - Wrote a custom TCP client to iterate over peers and download the file and a custom HTTP client to download the torrent file
  - Used the web worker API to run the client in a separate thread
- RESOC - A FOSS **social platform** for accessing free academic resources with task management, a chat section, and an open contributions page with a growing user base of 2000, more than 4000 reads, and 200 writes.
  - [*React, React-Bootstrap, Firebase, Cloud Firestore, emailjs, firebase-hosting, gh-actions*] **-** *2022-23*
  - Built a task management system with a chat section using React, React-Bootstrap, and Firebase.
  - Hosted static notes in the cloud using Firebase Storage and Cloud Firestore.
- zuzu - A **static site generator** written in JavaScript.
  - [*Node, Django REST, Bootstrap, React Hooks, SQLite3, AWS EC2, gh-actions, MarkdownIt, Glob, Gray-matter*] **-** *2022-23*
  - Built a static site generator using NodeJs.
  - Used gh-actions to automate the deployment of the application.
  - Live demo - 🔗
  - Old Blog - 🔗
  - Current Blog - 🔗
  - Hugo Blog - 🔗
  - Built a multi-client blog application using Django and zuzu and hosted it on AWS EC2. The front end of the application was built using React and Bootstrap.
- Qtree - Inspired by KoalasToTheMax, QTree is a short live demonstration of **image compression and decompression** using Quadtrees, that partitions a two-dimensional image by recursively subdividing it into four quadrants.

    - [*NodeJs, Quadtrees, Canvas- HTML5*] **-** *2023*
    - Built a web application using NodeJs and Canvas to compress and decompress images using Quadtrees.
    - Live demo - 🔗
- Explored - **The Globe** from Github's homepage implemented in **ThreeJS** with beautiful shading.
    - [*ThreeJS, WebGL, GLSL, JavaScript*] **-** *2022*
    - Demonstrated a web application using ThreeJS and WebGL to render a globe with beautiful shading.
    - Marked the location of the places visited on the globe, and showed the trips carried out.
    - Live demo - 🔗
- W3bChat - A **decentralized chat application** that uses a graph DB to demonstrate the concept of a decentralized chat application.
    - [*Svelte, CSS, GraphDB- GUNJS NodeJs*] **-** *2022*
    - Live demo - 🔗
- Nice Dear - A library that *generates random avatars*. *Dicebear rip-off!*
    - [*TypeScript, Sharp, Util, Canvas- HTML5*] **-** *2022*
- Rokio - A **multi-client chat server** written in Rust using Tokio.
    - [*Rust, Tokio*] **-** *2022*
- IWT - A group college project based on **MERN** Stack.
    - [*MongoDB, Express, React, NodeJs, Php*] **-** *2022*
    - Built the entire app from scratch using HTML CSS and PHP.
    - Live demo - 🔗
    - Used custom css from open-source projects to style the app.
    - Added a custom ML model to predict the marks secured by the student.
    - Created a venv in Python and installed the required libraries, and called it using PHP.
    - Marks Predictor - Predicting the marks of a student based on the number of hours studied using **Linear Regression** and **Gradient Descent**.
    - [*Python, Pandas, Numpy, Matplotlib, Seaborn, Scikit-learn*] **-** *2021*
    - Used the Scikit-learn library to create a Linear Regression model.
    - Used Gradient Descent to optimize the model.
- Depression Detector - Created a **TF/IDF classifier** - sentiment analysis model to detect depression in tweets.
    - [*Python, NLTK, Scikit-learn, Pandas, Numpy, Matplotlib, Seaborn*] **-** *2022*
    - Used the NLTK library to preprocess the tweets.
    - Used the Scikit-learn library to create a TF/IDF classifier.
- Taskapp - A **task** management system with.
    - [*Go, React, React-Bootstrap, Firebase*] **-** *2022*
    - Built a task management system using React, React-Bootstrap, and Go.
    - Hosted the project on AWS EC2
    - The react app - 🔗
- Fitness Videoplayer - A **flutter application** to monitor fitness and exercise workouts.
    - [*Flutter, Dart, Go*] **-** *2022*
    - Built a flutter application to monitor fitness and exercise workouts.
    - Added login/ sign-up features, and implemented the APIs using Go.
- Kanaban Board - A **Kanaban board** to manage tasks.
    - [*Flutter, Dart, Go*] **-** *2022*

- Movie Rating Prediction - Predicting the rating of a movie based on the review using **Naive Bayes**.
  - [*Python, NLTK, Scikit-learn, Pandas, Numpy, Matplotlib, Seaborn*] **-** *2021*
  - Used the bag of words model to make an NLP Pipeline. Implemented stopwords removal and stemming to clean the data.
  - Used Laplace smoothing to solve the problem of zero probability and further enhance the model.
  - Used the Scikit-learn library to create a Multinomial Naive Bayes classifier.
- Movie Recommendation System - An item-based collaborative recommendation system
  - [*Python, Pandas, Numpy, Matplotlib, Seaborn*] **-** *2021*
  - Used movie rating 100k dataset
  - Used Pandas to load and analyze the data frame
  - Used pandas correlation matrix to find the relation between ratings of the movie and recommend a movie with similar ratings
- Digit Recognizer - Classifying handwritten digits and MNIST dataset using **CNN** and **KNN**.
  - [*Python, Pandas, Numpy, Matplotlib, Seaborn, Scikit-learn*] **-** *2021*
  - Classifying MNIST dataset using CNN and implementing using Keras and max pooling dropout technique
  - Created a separate MNIST digit classifier using KNN - 🔗
- Bird Migration Analysis - A **data analysis** project to analyze the migration of birds.
  - [*Matplotlib, Pandas, Numpy, Cartopy, Shapely*] **-** *2021*
  - The data for this case study comes from the LifeWatch INBO project
  - Used the Cartopy library to plot the data on a map.
- Smart Home Automation System - Theoretical implementation of a **smart home automation system** in IOT Summer Internship.
  - [*NodeMCU, Relays, NodeRed, EC2, HiveMQ, Arduino IDE*] **-** *2021*
  - Used NodeMCU to control the relays and connected it to the cloud using HiveMQ.
  - Used NodeRed to create a dashboard to control the relays.
  - Used EC2 to host the NodeRed server.
- Industrial Contamination Detection - A theoretical **IOT** project to detect contamination in the soil in irrigation and agriculture.
  - [] **-** *2021*
  - Final Group Project for IOT Summer Internship.
- Ransomware Detection - A **ransomware detection** demonstration on *WannaCry*.
  - [*VmWare, Windows 10*] **-** *2020*
  - Used a virtual machine to demonstrate the attack.

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## Courses

- Container Orchestrations with Docker Swarm - Udemy 2023 - 🔗
- MERN Stack - Udemy 2022 - 🔗
- Modern Javascript ES6 for ReactJs - Udemy 2022 - 🔗
- Web Development using Python & Django - Udemy 2022 - 🔗
- Linux for Cloud & DevOps Engineers - Udemy 2022 - 🔗
- Machine Learning A-Z - Udemy 2021 - 🔗
- Machine Learning 101 - Guvi 2021 - 🔗
- Python MPC - Guvi 2020 - 🔗

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## Activities

- Chargebee - Finance Leader Roundtable, 2023
- Google IO/Connect, 2023
- Git Groove - UnStop 2023 - 🔗
- Web Developer/ Mentor- Zygon Organizing Committee 2023 - 🔗
- Best Delegate - XIMUN 2023 - 🔗
- Contingent Leader - IIT Bombay 2023 - 🔗
- Binance Ideathon - #BlockchainforGood 2022 - 🔗
- **Co-founder** CBRTL - 2022 - 🔗
- Why Rust - Squbix Digital 2022 - 🔗
- Ideate Nirman - SIT 2022 - 🔗
- Ideathon - ED Cell SIT 2022 - 🔗
- **President, Chairperson** IEEE Students' Branch *STB04531* - SIT 2022-23 - 🔗
- **Co-founder & Joint Secretary** - SWITCH 2021-22 - 🔗
- High Commendation I - SITMUN 2021 - 🔗
- High Commendation I ( Best Del ) - SITMUN 2020 - 🔗
- Photographer/ Graphic Designer - SIT: Media Cell - 2020 🔗
- Photographer - Silicon Photography Club 2019 - 🔗
- TEDxSITB - #HalfEmptyHalfFilled - SIT 2019 - 🔗
- Ethical Hacking - Robothlon - IIT Delhi 2017 - 🔗
- Arduino - Robothlon - IIT Delhi 2017 - 🔗
- Quadcopter UAV - Robothlon - IIT Delhi 2017 - 🔗
- Life In Space - NASCA 2017 - 🔗
- IOT - WAC| 2017 - IIIT Hyderabad - 🔗
- Robotics - WAC| 2017 - IIIT Hyderabad - 🔗
- DBMUN 2015 - 🔗
- Verbal Mention - Carmel Summit 2015 - 🔗

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