

# Amrit Gaurav Rath

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## EDUCATION

### Indian Institute of Technology Bhubaneswar

Dual Degree Specialization in Electrical Engineering, CGPA: 7.9/10.0

Bhubaneswar, Odisha

Aug 2018 – May 2023

### MP & EV English Medium School(CBSE)

Class XII, Score: 92%

Vishakapatnam, AP

Aug 2016 – May 2018

### Saint Anne's School(ICSE)

Class X, Score: 93.67%

Titilagarh, Odisha

May 2016

## TECHNICAL SKILLS

**Programming/Scripting Languages:-** C/C++, Python, Groovy, MATLAB

**DevOps:-** AWS, Docker, Kubernetes, Helm, Jenkins, Git, Argocd, Fluxcd, Grafana, Istio, Linux, Nutanix, GCP

**Datapipeline Components:-** Postgres, Druid, Flink, Kafka, Kafka-Connect, Elasticsearch

**Web Development:-** JavaScript, HTML, CSS, Bootstrap, PHP, MySQL

## WORK EXPERIENCE

### Associate Solution Leader, Brane Enterprises Pvt.Ltd.

Jun 2023 – Present

- \* Deployed various microservices using **helm charts**, utilized **argocd** and **fluxcd** for continuous deployment, **jenkins** for continuous integration, and **istio** for gateway/routing on both **AWS** and **Nutanix** infrastructure.
- \* Worked on setting up druid, kafka, flink, elasticsearch, clickhouse on **EC2 & K8S based clusters** along with **monitoring setup on grafana**; Hosted on AWS ALB & cloudflare, automated onboarding process with **ansible**.
- \* Executed **multi architecture docker** images and deployed them on arm instances for cost optimization.
- \* Automated the process of postgres, mongo, ES & dynamo **data migration** across tenants with **jenkins pipeline**.
- \* Recognised as one of the **top performers** in the **Engineering Team** by the organisation for FY2023-24.

### Research Intern, IIT Bhubaneswar

May 2021 – Jul 2021

- \* Developed a **Dual Active Bridge** for Li-ion Battery based **EV applications** with bidirectional power flow.
- \* Designed voltage and current **controllers** for 48Ah battery and 230V AC grid DC-Bus **voltage maintenance**.

### Engineer Intern, Null Innovations

May 2020 – Jul 2020

- \* Developed websites for the company using **WordPress** for frontend and **PHP & MySQL** for backend.
- \* Designed a **tidio chatbot**, **razorPay payment portal**, and implemented **yoast SEO** with Google Analytics.

## MAJOR PROJECTS

### Real-Time Group Chat Webapp | *HTML, CSS, Javascript, Socket.io*

Jun 2024

- \* Developed group chat application for real-time, bidirectional communication between clients and servers.
- \* Utilized Socket.io's event-driven architecture for handling user events, enhancing responsiveness and interaction.
- \* Built frontend with HTML, CSS, and developed backend to manage connections and events.

### Socio-Cult Fest Registration | *HTML, CSS, PHP, JS, MySQL, Bootstrap*

Aug 2019 – May 2021

- \* Developed the Registration Website for various events in Annual Socio-Cultural Fest 2021.
- \* Deployed them on CPanel; designed and managed database using MySQL/PHP for registration portal.

### Model Predictive Control of DC-DC Boost Converter | *MATLAB, Simulink, STM32*

Jun 2022 – May 2023

- \* Designed **Model Predictive Control** Algorithm to control a DC-DC boost converter using state space equations.
- \* Created both constant and variable frequency based current & voltage control strategies for the DC-DC converter.
- \* Successfully implemented the code using **STM32** microprocessor to communicate with **realtime hardware** setup.

## PUBLICATIONS, ACHIEVEMENTS & PORs

- \* **Paper published:** "A Hybrid Model Predictive Controller for an Integrated Dual-DC Boost Converter," by Ritam Chakraborty, Amrit Gaurav Rath, Olive Ray, and Kapil Jha, at the **INTELEC 2024**.
- \* Secured Global Rank 1680 in 2021 and 2450 in 2022 **Meta Hackercup Round-2**.
- \* Competed in **Google Kickstart**(id:amrit2104), **2022:** Global Ranks(ID: amrit2104): Round-B: 1313, Round-D: 1693, Round-F: 1990, Round-G: 1623, & Round-H: 1986, **2021:** Round-E: 2053, Round-H: 1328.
- \* Solved **600+** questions on **Leetcode** and **GFG**; Achieved **4-star on codechef**(max rating: 1988).
- \* Achieved **All India Rank 4469** in JEE Advanced 2018 & **All India Rank 1854** in JEE Main 2018.
- \* Coordinated industry relations for **student placements & internships** at Career Development Cell.
- \* Taught electrical engineering labs for 3rd and 4th year students as **Graduate Teaching Assistant**.
- \* Served as governor for film making club, member of socio-welfare club & branch representative for EE students.