

# Amrit Gaurav Rath

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## EDUCATION

### Indian Institute of Technology Bhubaneswar

Dual Degree(B.Tech+M.Tech) in Electrical Engineering, CGPA: 7.9/10.0

Bhubaneswar, Odisha

Aug 2018 – May 2023

## SKILLS

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

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

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

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

## WORK EXPERIENCE

### Software Development Engineer - Brane Enterprises Pvt.Ltd.

Jun 2023 – Present

- \* Deployed 10+ microservices till pre-prod and production using **Helm Charts**, utilized **Argocd and Fluxcd** for continuous deployment, **Jenkins** for continuous integration, and **Istio** for gateway/routing.
- \* Migrated micro-services & databases from **AWS** to **Nutanix** infrastructure saving \$500,000/pa on AWS Billings.
- \* 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**.
- \* Familiar with **AWS components** like EC2, Elastic Kubernetes Service, Elastic File System, Lambda function creation, RDS(Postgres), MSK(Kafka), OpenSearch(ES), IAM and S3.
- \* Recognised as one of the **top performers** out of 1000+ employees in the **Engineering Team** for FY2023-24.

### Research Intern - IIT Bhubaneswar

May 2021 – Jul 2021

- \* Developed a **Dual Active Bridge** for 48Ah Li-ion Battery based **EV applications** with bidirectional power flow.
- \* Successfully achieved the required target of generating various **Charging and Discharging Profiles** for an EV.

### Engineer Intern - Null Innovations

May 2020 – Jul 2020

- \* Designed a **WordPress** website to increase enrollment in training programs contributing to the company's growth.
- \* Created a **Tidio** chatbot, **Razorpay** payment portal, and implemented **SEO** with yoast & Google Analytics.

## MAJOR PROJECTS

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

Jun 2024

- \* Developed a 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 backend with nodejs/express to manage connections and events.

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

Aug 2019 – May 2021

- \* Developed the Registration Website for 20+ cultural events in Annual Socio-Cultural Fest 2021.
- \* Handled 500+ registrations while hosting them on CPanel, also managed database using MySQL/PHP.

### Model Predictive Control(MPC) of DC-DC Converter | *MATLAB, Simulink, STM32*

Jun 2022 – May 2023

- \* Designed **MPC** to control a realtime hardware setup of electrical converter using an STM32 microprocessor.

## 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).
- \* Represented 400+ students and coordinated industry relations for **student placements & internships** at CDC.
- \* Taught 50+ 3rd and 4th year students for electrical engineering labs as **Graduate Teaching Assistant**.
- \* Served as governor for film making club, member of socio-welfare club & branch representative for EE students.
- \* Achieved **All India Rank 4469** in JEE Advanced 2018 & **All India Rank 1854** in JEE Main 2018.