

# Ashutosh Mahapatra

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## EDUCATION

**Siksha 'O' Anusandhan University (ITER)**  
*Bachelor of Technology in Computer Science Engineering*

Nov. 2021 – June 2025  
**CGPA: 9.72**

## EXPERIENCE

**Member of Technical Staff**  
*Aveti Learning Pvt. Ltd.*

March 2025 - Present  
*Bhubaneswar, India*

- Designed and implemented the backend for teachers' app using **FastAPI** and **PostgreSQL**, with deployment and orchestration on **Kubernetes** for scalability and fault tolerance.
- Self-hosted a scalable **video conferencing platform** using **Jitsi Meet**, orchestrated via **Kubernetes** and **Helm charts**, implementing dynamic auto-scaling and reducing cloud infrastructure cost by **80%**.
- Developed and optimized microservices for the platform serving **2700+ schools** and **200K+ students**, leveraging **AWS**, **Docker**, and **CI/CD pipelines** to ensure high availability and performance.

**Software Engineer Intern**  
*Samsung R&D Institute*

June 2024 – Dec 2024  
*Bangalore, India*

- Developed a static power analysis tool to identify performance bottlenecks and reduce power inefficiencies by **10%**, leveraging in-house **GenAI** for optimization suggestions.
- Engineered an industry-first ground truth generation framework for **ARM**, achieving **91% accuracy** in per-instruction energy measurement, with support for both hardware and software modes.
- Created an automation suite using **Python** and **Java** for capturing and analyzing per-instruction power consumption, reducing ground truth creation time by **90%**.

**Software Developer Intern**  
*Aveti Learning Pvt. Ltd.*

Sep. 2022 - May 2024  
*Bhubaneswar, India*

- Developed a cross-platform AI tutor bot for mobile and web using **Flutter**, leveraging **Langchain** and **OpenAI GPT-4** as a backend service.
- Integrated **vector search**, and **Retrieval-Augmented Generation (RAG)** for question answering (QA) in chatbot.

## PROJECTS

**Passlock & PasslockDesktop | Python, Firebase, Kivy**

Jan. 2022 – June 2022

- Created a cross-platform password manager for mobile and desktop (Android, Linux, Windows, MacOS).
- Leveraged **Firebase** real-time database for efficient CRUD operations.
- Implemented **AES-256 encryption** to ensure robust password security and decryption.
- Designed real-time password synchronization system across devices with **0ms latency**.
- Optimized app load time by **30%** implementing lazy loading technique.

## SKILLS

**Languages:** Python, Java, C, C++, Dart, Assembly, LaTeX

**Frameworks & Libraries:** Flutter, FastAPI, Flask, Kivy, Langchain, NumPy, Pandas

**Tools & OS:** Linux, Bash, UNIX Shell, Git, SSH, GitHub Actions, Nmap

**Cloud & DevOps:** AWS, Microsoft Azure, Google Cloud Platform, Kubernetes, Docker

**Databases:** PostgreSQL, MySQL, Oracle DB

## ACHIEVEMENTS

Finalist in **JP Morgan Chase Code For Good**

Secured **4th** rank in **Capture The Flag** contest conducted by **NIT Rourkela**

Rated **1762 (Max)** in **CodeChef**

Rated **1713** in **LeetCode**

Rated **1232 (Max)** **Pupil** in **CodeForces**