Ashutosh Mahapatra

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EDUCATION

Siksha 'O' Anusandhan University (ITER)　　　　　　　　　　Nov 2021 – June 2025
Bachelor of Technology in Computer Science Engineering　　　　　　　　*CGPA: 9.85*

EXPERIENCE

Software Engineer Intern　　　　　　　　　　　　　　　　　June 2024 – Dec 2024
Samsung R&D Institute　　　　　　　　　　　　　　　　　　*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.
- Automated the build process using CMake, reducing compilation time by 70%.
- 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　　　　　　　　　　　　　　　　Sep. 2022 – May 2024
Aveti Learning Pvt. Ltd.　　　　　　　　　　　　　　　　　*Bhubaneswar, India*

- Developed a cross-platform AI tutor bot for mobile and web using Flutter, integrating Langchain, OpenAI GPT-4, vector search, and Retrieval-Augmented Generation (RAG) for enhanced question answering (QA).
- Architected microservices for PowerPoint-to-video conversion using serverless AWS Lambda with SQS (messaging queue) and S3 for storage, reducing operating costs by 90%
- Built and orchestrated asynchronous RESTful APIs with FastAPI, hosted on AWS EC2, and secured scalability using NGINX
- Optimized CI/CD deployment pipelines using GitHub Actions, reducing deployment time by 50%.

PROJECTS

Passlock & PasslockDesktop | *Python, Firebase, Kivy, PyInstaller, Github Actions*　　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.

JalDristi (Smart India Hackathon) | *Flutter, Python, FastAPI, AWS, MySQL, ReactJS*　　Sep. 2023

- Spearheaded a team of 6 during a 24-hour hackathon, developing a crowdsourced water-monitoring system.
- Utilized Flutter and employed the Provider package for state management to craft a Neumorphic and Stateful UI.

SKILLS

Languages: Python, Java, C, C++, Dart, Assembly, LaTeX, Golang
Frameworks: Flutter, FastAPI, Flask, Kivy, Langchain, PyInstaller, NumPy, Pandas
Tools and OS: Linux, UNIX shell, Bash, Git, SSH, Github Actions, Nmap, Wireshark
Cloud Platform & Containerization: Google Cloud Platform, Amazon Web Services, Docker, Kubernetes
Databases: Oracle DB, PostgreSQL, MySQL

ACHIEVEMENTS

Finalist in JP Morgan Chase **Code For Good**
Secured **4th** rank in Capture The Flag contest conducted by NIT Rourlkela
Rated 1762 (Max) in Codechef
Rated 1713 in Leetcode
Rated 1232 (Max) Pupil in Codeforces