

# Dipto Bhattacharjee

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## EXPERIENCE

### KOOLIO.AI | SOFTWARE ENGINEER

April, 2023 – Present | Remote

- Led backend development and cloud infrastructure (AWS/GCP) for a production web app with **10+ core features** used by **100+ users**, while **managing a team of 5 to 7 developers**, owning the **system architecture** and ensuring **on-time cross-stack delivery** in a **fast-paced startup**.
- Implemented **Google OAuth 2.0**, **Apple SSO** and **Stripe subscriptions** (incl. trial), **boosting sign-ups by 30%** ensuring smooth transactions.
- Architected **real-time collaboration** via **LiveKit** and **Socket.IO**, implemented **core editing features** and **RSS feed publishing for podcasts**, and **optimized audio processing flows** for performance, ensuring **99.99% uptime**.
- Integrated AI/ML services (**ChatGPT**, **MusicGen**, **DALL-E-2**) for features like **audio generation**, **summarization** and **noise removal**.
- Migrated ML workloads from **EC2** to **ECS**, **reducing infrastructure costs by 40%**, and **deployed multiple sites with automated CI/CD** and **optimized delivery**.
- Containerized and deployed **10+ microservices** using **Docker**, managed via **ECS**, **EKS**, and **GKE**.
- Maintained **CI/CD pipelines** (**GitHub Actions**, **Cloud Build**, **S3/CloudFront**) for **Zero-Downtime deployments**.
- Resolved **100+ backend** and several **frontend production issues**, improving **stability**, **security** and **AI-driven user experience**.
- Optimized **database schema** and large datasets (music/SFX), **reducing storage by 35%**, **latency by 50%** and **improving response time by 30%**.

### BASEL PRACTITIONERS PVT. LTD. | DEVELOPER INTERN

December, 2022 – May, 2023 | Remote

- Architected backend and database schema for the **Due Diligence microservice** in a **Credit Risk Management Framework**.
- Optimized database queries and enhanced data fetching and processing algorithms, **reducing latency by 50%**.
- Worked on data forecasting and prediction microservice by integrating model outputs with **AWS QuickSight** via **S3** and **Athena** and visualized dynamic insights through **interactive dashboards**.
- Built and integrated frontend features using **React**, **Axios** and **Redux**; focused on **functional development** and **efficient state management** with **React Hooks** while connecting APIs between frontend and backend.

## PROJECTS

### COLLABORATIVE NOTES APP (GITHUB LINK)

- Event-driven collaborative notes app with real-time sync.

### BOOK INVENTORY MANAGEMENT APP (GITHUB LINK)

- MERN-based book inventory management system.

### CRYPTO-COMPRESS PIPELINE (GITHUB LINK)

- Encrypted text compressor with Enigma and Huffman.

## SKILLS

### PROGRAMMING

- Python • Java
- TypeScript • JavaScript
- SQL • Go • Kotlin
- C • C++

### BACKEND

- Spring Boot • Node.js • Express.js
- Flask • FastAPI • Django • Django REST
- RESTful APIs • Socket.IO
- GraphQL • gRPC • tRPC
- Stripe API (Payments) • OAuth 2.0

### DATABASE

- AWS DynamoDB • GCP Firestore
- PostgreSQL • MongoDB • MySQL
- MariaDB • Redis • SQLite3 • Prisma

### CLOUD AND DEVOPS

- AWS • GCP
- Buildpacks • Docker
- Docker Compose • GitHub Actions
- GCP Cloud Build
- AWS CloudFormation

### ML / AI INTEGRATION

- LiveKit (AI Voice Agents)
- ChatGPT • SpeechBrain
- AudioGen • MusicGen
- Kandinsky • DALL-E-2
- Stable Diffusion • Replicate

### FRONTEND

- React.js • Redux • Tailwind CSS
- Next.js • Axios • HTML5 • CSS3

### TOOLS AND PLATFORMS

- Linux • Nginx • Git • GitHub
- AWS CLI • GCloud CLI
- Maven • UV • NPM
- Postman • cURL • HTTPie

### CURRENTLY LEARNING

- Terraform • Kubernetes • Rust

## EDUCATION

### GOVERNMENT COLLEGE OF ENGINEERING AND CERAMIC TECHNOLOGY

BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE AND ENGINEERING

2020 - 2024

Kolkata, West Bengal, India

Cum. GPA: 9.79 / 10.0