Dibbayajyoti Roy

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Portfolio | GitHub | LinkedIn

EXPERIENCE

Yupcha Softwares Pvt. Ltd. Jul. 2025 – Present
Full Stack Software Engineer, Founding Engineering Team Agartala, India

- **Sole engineer** on spicrawl.com: built the full dashboard and every backing API service, schema design through deployment
- Designed a **service-oriented architecture** where independent services coordinate over Redis worker queues across **100 concurrent live sessions** under load test, with **asynchronous LLM scoring** decoupled from the live session
- Re-architected the AI Video Interviewer from a high-latency STT → LLM → TTS pipeline into **real-time speech-to-speech** in Python on Pipecat, AWS Bedrock Nova Sonic, LiveKit and WebRTC
- Designed PostgreSQL schemas and built **300+ REST APIs** with role-based access control and Row-Level Security
- **Reduced page load time by 44%** by eliminating N+1 queries and tuning PostgreSQL indexes; **cut Redis polling latency by nearly 90%** by batching reads into MGET
- Owned the **Ashby and BambooHR ATS integrations** end to end; deployed production services on Docker, Nginx and Linux with GitHub Actions CI/CD

OPEN SOURCE CONTRIBUTIONS

ReductStore | *Rust, Tokio* GitHub

- Merged **8 pull requests** into a production Rust time-series database, shipped in tagged releases
- Implemented replication batch compression, a system event refactor, and observability improvements on the replication path

Meta Pyrefly | *Rust* GitHub

- Root-caused and fixed a false-positive untyped-import diagnostic by improving PEP 561 submodule handling in Meta's Python type checker

PROJECTS

Fresco | *Rust, GTK4, Wayland, X11* Site GitHub

- Built and maintain an open-source Linux live wallpaper engine in Rust with a native GTK4 interface and an optimized async playback pipeline
- **1,713 users across 115 countries**, 5,695 downloads, 56 GitHub stars; triage issues across distributions and desktops

Kasauti | *AI exam platform, MCP* Site

- Built an exam platform where an LLM authors questions and the platform runs timed exams, auto-grades them and returns per-topic analytics
- Exposed the flow as an **MCP server** so agents can create exams, grade submissions and generate targeted follow-up exams from weak areas

AHTML | *TypeScript* Site GitHub

- Created a machine-readable HTML standard that emits OpenAPI 3.1, JSON-LD, llms.txt and WebMCP from a single source; published as **9 npm packages with 25k+ combined downloads**

RoyUI | *React, TypeScript* Site GitHub

- Built a TypeScript-first React component library focused on accessibility, developer experience and performance; published on npm

WhatBroke | *TypeScript* GitHub

- Built an AI debugging CLI and MCP server that packages crash context and ranks suspect commits using Git history across multiple test runners

SKILLS

Languages: Rust, TypeScript, JavaScript (ES2023), Go, Python, SQL

Backend: Node.js, Express, Hono, FastAPI, REST APIs, OpenAPI, service-oriented architecture, OAuth, JWT

Databases & Caching: PostgreSQL (schema design, indexing, Row-Level Security), Redis queues, MongoDB, DynamoDB, MariaDB

Cloud & DevOps: AWS (Bedrock, CloudWatch, DynamoDB), Docker, Nginx, Linux, GitHub Actions, CI/CD, Systemd, Git

Frontend & Real-time: React, Next.js, TanStack Query, Tailwind CSS, WebRTC, LiveKit, Pipecat, MCP, AI Agents, Tokio

EDUCATION

ICFAI University, Tripura 2022 – 2026
Bachelor of Technology in Computer Science and Engineering | *CGPA: 7.36/10* Agartala, India

- **Honors**: Winner, NITA Arjuna 2.0 Hackathon (2025); Winner, Technovate (2025); Runner-Up, NITA-ISRO Space Hackathon (2024)