

Biresb Biswas

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SUMMARY

Software engineer at the intersection of **agentic systems** and **on-chain infrastructure**. Shipped **defi-skills** at **Nethermind** – a deterministic intent engine across **13 DeFi protocols** and **6 chains**. Researched distributed LLM fine-tuning for edge-device networks at **Samsung R&D**.

EXPERIENCE

Nethermind — Software Engineer Intern Jan 2026 – Apr 2026
DeFi · Multi-Chain · Agentic Systems · Python

- Built and open-sourced **defi-skills** ↗ – a deterministic engine that converts natural-language intents into unsigned, auditable on-chain transactions across **13 DeFi protocols** and **6 chains**.
- Architected a **JSON-playbook system** where adding a new protocol requires **zero engine code** – resolvers, ABI encoding, approvals, and multi-chain addresses are fully data-driven, lowering contributor friction to a single PR.
- Shipped multi-platform distribution (**Claude Code plugin**, **OpenClaw skill**, hosted REST API, pip package) with security hardening, structured error contracts, and reproducible benchmarks.
- Drove early adoption – **7 contributors** merging PRs, **200+** monthly PyPI downloads, and **20K+** launch-post reach within weeks of release.

Samsung R&D — Research Intern (Part-time) Sep 2025 – Apr 2026
Distributed Training · PyTorch · DeepSpeed · Hugging Face PEFT

- Designed **SplitLoRA** – a distributed fine-tuning framework for **edge device networks** combining **layer-wise model splitting** with **LoRA adapter allocation** to coordinate training across heterogeneous CPU/GPU/multi-device topologies.
- Built the framework on **DeepSpeed** and **FSDP** to shard model weights and optimizer states across constrained devices; benchmarked scalability, throughput, and downstream accuracy trade-offs across device configurations.

Quetzalcoatl Pvt Ltd — Full-Stack Developer (Part-time) Mar 2025 – Nov 2025
Docker · Node.js · GCP · CLI Workflows

- Reduced production Docker image size from **10 GB to 1 GB** (~90% reduction) via multi-stage builds, engineering a fully headless PrusaSlicer CLI workflow deployable on **GCP VMs**.
- Integrated the slicing engine with the backend for automated **dynamic pricing** and metadata extraction from G-code, taking the pipeline from prototype to production.

L&T Energy Hydrocarbon — IT Intern Jun 2025
ASP.NET Core · SQL Server · QuestPDF · Azure AI

- Built **FlowDocs** – an enterprise documentation platform with **Azure AI**-powered draft generation, cutting manual authoring effort by **60%** and review cycles by **45%**.
- Implemented a **role-based approval chain** (contributor → team lead → department head) with **semantic versioning** and audit trails for compliance traceability, on a normalized SQL Server schema with EF Core and QuestPDF.

OPEN SOURCE

Open Library (Internet Archive) | *Python, JavaScript, REST APIs* [PRs](#) ↗

- Built an **OpenAlex CLI importer** ↗ ingesting **15K+** validated bibliographic records into the catalog.
- Resolved production bugs and improved test coverage in a multi-contributor codebase used by **millions** of readers.

Formstr (Bitcoin / Nostr) | *JavaScript, Distributed Protocols* [PRs](#) ↗

- Implemented **NIP-05** and **NIP-50** protocol support with unified search across relays.
- Integrated **Bitcoin Lightning** payments and built Docker-based distributed test infrastructure for relay simulation.

PROJECTS

Outreach – AI-powered lead-gen platform | *FastAPI, Next.js, Crawl4AI, GenAI, AWS* [GitHub](#) ↗

- Turned natural-language goals into automated lead discovery via **LLM-driven query expansion** and Crawl4AI for geo-targeted crawling, contact extraction, and summarization.
- Implemented **semantic search** and **ML-based predictive lead scoring**; deployed on a scalable AWS stack (EC2, RDS, S3, CloudFront, SES).

ACHIEVEMENTS

- **1st Runner-Up**, I Love Hackathon: Chennai Web3 – **2/49 finalists** from **900+** applicants.
- **Finalist**, DevHouse – selected to **top 15 of 64 finalists** from **1,000+** applicants.
- **Hacktoberfest Contributor** – merged contributions to **Ansible**, **spotDL**, and other open-source repositories.

EDUCATION

Vellore Institute of Technology, Chennai

B.Tech, Computer Science and Engineering – CGPA: 8.14/10

Chennai, India

Aug 2023 – May 2027

TECHNICAL SKILLS

Web3 / DeFi: Solidity, ethers.js, web3.py, ABI encoding, multi-chain RPC, Aave / Uniswap / Curve / Lido integrations

AI / ML: PyTorch, Hugging Face, LoRA / PEFT, DeepSpeed, FSDP, LangChain, semantic search

Languages: Python, TypeScript, JavaScript, C / C++, C#, Solidity

Backend / Frameworks: FastAPI, Node.js, Next.js, ASP.NET Core, Flask, GraphQL

Cloud / Infra: AWS (EC2, RDS, S3, CloudFront, SES), GCP, Azure AI, Docker, Linux

Databases: PostgreSQL, MongoDB, SQL Server