Partha Chakraborty

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SUMMARY

Full-stack software engineer with 2 years at startups owning features end to end in React, TypeScript, Python, FastAPI, and Node.js, from schema and APIs to the UI. In projects, builds AI agents with tool calling, sandboxed execution, and LLM evaluations; at TurboMail, fine-tuned Qwen2.5-7B to lift email classification F1 from 18.9% to 87.6%.

EXPERIENCE

TurboMail **Buffalo, NY (Remote)**
AI Engineer Intern *May 2026 to Aug 2026*

- Owned production features across the stack in React, TypeScript, Python, FastAPI, SQLAlchemy, and SQL.
- Designed the database schema and APIs for subscription and payment tracking, then built the customer-facing React interface.
- Wrote bulk email deletion and folder-move APIs in FastAPI, plus email-body sanitization and multi-account thread scoping.
- Automated unsubscribe handling with FastAPI background tasks that parse RFC 8058 List-Unsubscribe headers.
- Raised ROUGE-L from 20.3 to 39.7 on email summaries and 24.0 to 40.1 on replies by LoRA-tuning Qwen2.5-7B.
- Served the fine-tuned model with vLLM for inference and published it to the Hugging Face Hub.

Bird Vision AB **Remote**
Software Developer *Jun 2023 to Jul 2025*

- Integrated Eboka with the company's other products end to end, so customers got value from each in one subscription cycle.
- Took backend features to production, connecting third-party APIs to existing workflows with Node.js and Express.js.
- Built two-way customer data sync between two company apps, with scheduled background bulk imports that notify users.
- Added on-demand single-customer import by user ID in both directions, so users didn't have to enter the same data twice.
- Ranked second on the team in code contributions within a year across three products, and reviewed teammates' code.
- Wrote Cypress tests for the main user flows and built responsive layouts for phone screens.

PROJECTS

Greenlight [Live Demo] [GitHub] Python, Claude, Gemini, Streamlit, GitHub Actions

- Built a Claude/Gemini agent with tool calling to diagnose failing tests, edit code, and independently verify fixes.
- Sandboxed tool execution to the repository, blocked secret files, scrubbed test-process credentials, and kept tests read-only by default; enforced step, token, and cost budgets with per-run traces and reviewable diffs.
- Shipped a CLI, Streamlit demo, and GitHub Action for human-reviewed fix PRs; developed the project with Claude Code.
- Built hidden-test and regression-checking evaluations: a Gemini run solved 10/10 synthetic tasks and 4/13 attempted real bugs, requiring passing project tests and no test-file edits.

AI Codebase Intelligence [Live Demo] [GitHub] Python, Gemini, ChromaDB, Streamlit

- Deployed a Gemini multi-agent RAG app for GitHub and local repos: Architect, Code Reviewer, Bug Finder, Docs agents.
- To keep answers reliable, built a source explorer with file paths, line ranges, and citation checks; reached 87.5% Hit@5 and 0.750 MRR on an initial 8-question retrieval evaluation.

EDUCATION

University at Buffalo **New York, USA**
M.S. in Artificial Intelligence and Machine Learning *GPA 3.9/4.0 | Expected Jan 2027*
Coursework: Algorithms, Database Systems, Data-Intensive Computing, Machine Learning

Presidency University **Bengaluru, India**
B.Tech. in Computer Science and Engineering *GPA 8.14/10 | 2018 to 2022*
Coursework: Computer Networks, Data Structures, Operating Systems, Computer Architecture, Engineering Mathematics

SKILLS

Languages: Python, TypeScript, JavaScript, SQL, Java
Frontend and testing: HTML, CSS, React, Next.js, Redux, Tailwind CSS, React Native, Cypress, pytest
Backend and integrations: FastAPI, Node.js, Express.js, REST APIs, SQLAlchemy, Redis, API integration
AI and LLMs: Claude API, Gemini API, agent orchestration, agent evaluation, RAG, tool calling, Sentence Transformers, embeddings, vector search, BM25, cross-encoder reranking, PyTorch, LoRA, PEFT, vLLM, Hugging Face
Data and tools: PostgreSQL, MySQL, MongoDB, Firebase, ChromaDB, Docker, Linux, Git, GitHub Actions (CI/CD), Pandas, NumPy, matplotlib
Development tools: Tree-sitter, Cursor, Claude Code, GitHub Copilot

CERTIFICATIONS

Hugging Face Agents Course, Unit 1: Fundamentals of Agents [Certificate] Oct 2026