

Subhankar Satpathy

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Skills

Programming Languages: C++, JavaScript (ES6+), TypeScript, SQL

Web Development: React.js, Node.js, Express.js, HTML5, CSS3, Tailwind CSS

Real-Time Collaboration: WebRTC, Yjs

Databases/Cloud: MongoDB, PostgreSQL, Redis, Deployment (Render, Vercel, Netlify)

System Design: WebSockets, JWT Authentication, REST APIs, Scalability Concepts(basics)

Developer Tools: Git, GitHub, Docker (basics), Postman, VS Code, NPM/Yarn

Core CS Concepts: Data Structures and Algorithms(DSA), Object-Oriented Programming(OOP), Database Management System(DBMS)

Interpersonal: Problem-solving, Critical Thinking, Communication, Leadership, Adaptability, Team Collaboration

Education

B.Tech in Electronics and Communication Engineering, Birla Institute of Technology, Mesra 2023–Present
Current CGPA: 7.85

Senior Secondary (Class XII), CBSE, DAV Public School, Pokhariput 2022
Percentage: 95.4%

Secondary (Class X), CBSE, Nalanda Public School, Cuttack 2020
Percentage: 93.2%

Projects

Scriblio — AI-Powered Collaborative Whiteboard

GitHub: github.com/suwubh/Scriblio

- Tech stack: **TypeScript, React, Node.js, Yjs (CRDTs), WebRTC, WebSockets, Redis.**
- Developed a collaborative whiteboard that converts unstructured brainstorming into actionable outputs, reducing manual redrawing and transcription.
- Designed **CRDT-based synchronization (Yjs)** for eventual consistency and hybrid transport (**WebRTC with WebSocket+Redis fallback**) for low-latency collaboration.
- Integrated a multimodal **AI assistant** to generate diagrams, summaries, and images from natural language prompts and auto-embed them with smart layouts.

Chess4Nerds — Multiplayer Chess Platform

GitHub: github.com/suwubh/Chess4Nerds

- Tech stack: **TypeScript, React, Node.js, WebSockets, Redis, PostgreSQL.**
- Implemented **real-time room-scoped state management** with presence, seamless reconnects, and horizontal scaling using **Redis pub/sub**.
- Built matchmaking, **transactional persistence (Postgres)** with idempotent writes, Elo ratings, leaderboards, durable match history, and rate-limited **in-game chat**.
- Added **vs-computer mode** with an embedded engine and server-authoritative move validation.

PiggyTrack — Personal Finance Dashboard

Live Demo: piggytrack-vbyp.onrender.com | GitHub: github.com/suwubh/PiggyTrack

- Tech stack: **React, Node.js, Express, MongoDB, JWT.**
- Developed a full-stack finance app with **RESTful APIs**, secure **JWT authentication**, server-side validation, and **CRUD** transactions.
- Delivered **interactive spending charts**, one-click **Excel export**, and a **responsive UI for mobile** and desktop.

Achievements

- Scholarships: NTSE, PSMTS, NMMS, KVPY.
- Olympiads: International Mathematics Olympiad.
- Debating: Winner of multiple state and district competitions.
- Competitive Programming: **LeetCode rating 1769; Codeforces Pupil (1396); CodeChef 3 Star (1667).**

Extracurricular

- Ranked in the **top 1%** globally on Chess.com (1750 Elo).