

## WORK EXPERIENCE

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- **HackerRank (YC S11)** Bangalore, India  
*Software Engineer Intern* *Jan 2026 - Apr 2026*
  - **Security:** Implemented access restrictions across email editing workflows, blocking link/image insertion and URL auto-linking for trial users to prevent misuse and enhance platform security.
  - **Editor Stability & Performance:** Resolved critical rendering bugs in CKEditor font handling and UI alignment; reduced redundant API calls by 66% (skills/roles API calls reduced from 3x to 1x per navigation).
  - **Technical Debt Reduction:** Deprecated and removed major feature flags, consolidating legacy workflows and reducing overall codebase complexity.
  - **Testing Infrastructure Modernization:** Contributed to migration from Jest to Vitest for fullstack modules; enhanced reporting analytics with quantified scoring metrics.
- **CNCF - Jaeger** Remote  
*LFX Mentee* *Jun 2025 - Aug 2025*
  - **React 19 Migration:** Upgraded project from React 18→19, resolved TypeScript compatibility issues, and ensured build stability with test and coverage validation.
  - **Testing Infrastructure:** Migrated 50+ test suites from Enzyme to React Testing Library, adopted userEvent-based testing, removed Enzyme entirely, and maintained 100% coverage with improved reliability.
  - **Component Architecture Modernization:** Refactored legacy class components to functional with hooks, improved state management across core tracing UI components, optimized rendering with memoization, and enhanced code maintainability.
  - **High-Velocity Development and Quality Improvements:** Delivered 76 PRs (60+ merged) in 3 months, upgraded TypeScript + ESLint toolchain, fixed failing tests, improved test coverage, and strengthened code quality across key features.
- **Postman(AsyncAPI)** Remote  
*Google Summer of Code Mentee* *May 2024 - Nov 2024*
  - **API Integration Testing:** Developed comprehensive Jest test suite with 20+ test files covering critical build scripts including API integrations for GitHub GraphQL, YouTube Data API, and Google Calendar API with complete mock implementations and error handling scenarios.
  - **Test Infrastructure Development:** Implemented robust testing infrastructure with 100+ test cases covering async operations, file system operations, API error handling, authentication failures, and data validation with automated mocking of external dependencies (axios, node-fetch, @octokit/graphql).
  - **Error Handling and Validation Systems:** Built extensive error handling and validation systems for production scripts including HTTP status code validation, API rate limiting, file write error handling, and malformed data processing with comprehensive logging mechanisms.
  - **Automated Testing Framework:** Created automated testing framework for complex data processing workflows including RSS feed generation, markdown frontmatter validation, tool categorization, dashboard data aggregation, and newsroom video processing with fixture data and temporary directory management.
- **AsyncAPI Initiative** Remote  
*Maintainer and Contributor* *Jul 2023 - Apr 2026*
  - **Project Maintenance and Community Support:** Reviewed pull requests, triaged issues, and supported contributors across the AsyncAPI website and conference website projects as a maintainer.
  - **Frontend Modernization:** Contributed to migration of the AsyncAPI website from JavaScript and Next.js v12 to TypeScript and Next.js v14, improving scalability, maintainability, and performance.
  - **Feature Development:** Implemented the financial summary page using Next.js, Tailwind CSS, and Node.js, enhancing platform functionality and user experience.
  - **Backend Automation and Open Source Contributions:** Engineered Node.js scripts for transforming YAML data into JSON, streamlining data workflows, and successfully delivered 60+ merged pull requests across the project ecosystem.

## PROJECTS

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### Phoenix Engine

- *Next.js, MongoDB, Gemini API, Tailwind CSS, Three.js*
  - **Engineering Analysis Platform:** Architected a full-stack AI-assisted platform for early-stage engineering analysis, helping users evaluate design ideas across thermal systems, aerodynamics, battery cooling, and semiconductor process modeling.
  - **Guided Workbenches and Simulations:** Designed domain-specific workbenches with example inputs, validation warnings, deterministic calculations, sensitivity sweeps, saved runs, and interactive 3D simulation views for concept exploration.
  - **AI Chat and Result Interpretation:** Integrated Gemini-powered chat to explain results in plain English, compare studies, identify assumptions, recommend design tradeoffs, and guide users toward the next validation step.
  - **Learning and Productivity Features:** Created tutorial subpages, beginner physics explanations, worked examples, searchable project history, PDF exports, saved analysis sessions, and responsive dashboards to support non-expert users.

### PrepTalk

- *Next.js, MongoDB, Mongoose, JWT, WebRTC, Ably, Gemini API, Tailwind CSS*
  - **Interview and Assessment Platform:** Developed a full-stack interview platform with role-based dashboards, protected API routes, JWT cookie auth, session ownership checks, invite-based room access, and candidate coding assessments.
  - **Realtime Collaboration Infrastructure:** Engineered WebRTC video rooms, Ably-powered presence, server-persisted realtime chat, shared notes/code workspace, scoped realtime token authorization, and responsive live interview views.
  - **Online Coding Assessment System:** Designed a coding assessment system with template-based question creation, candidate assignment, deadlines, in-browser code editor, question prompts, visible test execution, final submission flow, and server-side grading.
  - **AI-Powered Interview Workflows:** Integrated Gemini API for interview question banks, prep guides, report summaries, lab debugging hints, structured feedback, action items, and performance analytics.

### GradeFlow

- *Next.js, TypeScript, FastAPI, Supabase, PostgreSQL, Gemini API, LangGraph, LangSmith*
  - **AI Grading Workspace:** Created a full-stack grading platform for teachers to create classes, assignments, structured rubrics, and batch-upload handwritten or typed worksheet submissions.
  - **Multimodal Grading Pipeline:** Built a LangGraph-based grading pipeline that uses Gemini API to extract student work, grade question-level answers, calculate confidence scores, and flag uncertain results for teacher review.
  - **Teacher Review and Regrade System:** Developed approval, override, rubric versioning, and regrade workflows so teachers can revise grading criteria and rerun grading across existing submissions.
  - **Secure Student Result Delivery:** Secured student result delivery with JWT-based teacher auth, Supabase-backed ownership checks, private storage, audit logs, and student result links that only expose returned assignments.

## SKILLS

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- **Languages:** JavaScript, TypeScript, Python
- **Frontend:** React.js, Next.js, Tailwind CSS
- **Backend and APIs:** Node.js, Express.js, FastAPI
- **Databases:** MongoDB, PostgreSQL, Supabase
- **Realtime and Collaboration:** WebRTC, WebSockets, Ably
- **Testing and Tools:** Jest, Vitest, Cypress, React Testing Library, Postman, Docker, Git, GitHub