

Mohammed Aayan Pathan

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Summary

Passionate full-stack developer and aspiring computer scientist with a focus on applied AI, data-driven web apps, and impactful user experiences. Proven track record of building real-world projects with modern technologies and a strong interest in scalable AI systems. Comfortable working in small engineering teams, using Git workflows, code reviews, iterative development cycles and Agile sprints.

Education

A-Levels

GEMS Founders School - Al Barsha • Dubai, UAE

06/2026

A-Levels: A* in Mathematics, A in AS Physics (*predicted A* in Further Math, A in CS and Physics*)

Subjects studied include: **Mathematics, Further Mathematics, Computer Science and Physics.**

GCSE/iGCSE

GEMS Founders School - Al Barsha • Dubai, UAE

06/2024

GCSEs: Achieved grades 999988877, equivalent to A*A*A*A*A*A*AA.

Subjects studied include:

Mathematics, Computer Science, Chemistry, Psychology, Physics, Business Studies, English Literature and Language, Further Pure Mathematics

Experience

Junior Engineering Associate - Full-Stack Web Developer

Voxa Voice App • Dubai, UAE (remote)

10/2025 - Present

- Refactoring the Voxa MVP codebase into the 1.0 version, reimagining user stories and feature prioritization.
- Co-developed the Voxa Demo app for VCs and potential users for the Lisbon WebSummit event, using Vite and Node; being responsible for version control and deployment management.
- Optimizing UX and UI, and implementing the new brand image, for improved usability and click efficiency, for mobile and desktop.
- Implemented Firebase Functions and App Check to monitor and scan for disallowed material in user posts, replies and other community features, getting automatically flagged and removed.
- Reworking analytics with Google Analytics across our website, monitoring user-interaction data and implementing solutions to improve the data.
- Helped onboard and supervise new interns for Voxa.

Product and App Development Intern

Voxa Voice App • Dubai, UAE (remote)

07/2025 - 07/2025

- Developed a full-stack voice training app using Next.js and Firebase, with 5+ core features.
- Specialized in front-end design using TailwindCSS to build responsive layouts.
- Implemented 2 APIs: AssemblyAI APIs for live transcription and OpenAI GPT for speech feedback.
- Added user authentication with Firebase Auth, Firebase Storage and Firestore DB to post/delete/bookmark posts and replies, create and modify accounts and store activity and game data.
- Managed GitHub repository and led deployment via Vercel.

- Collaborated with a team of 3 to ensure seamless feature integration and development cycles.
- Conducted user testing (over 30 testers) to gather feedback for iterative improvements.
- Demonstrated proficiency in prototyping UI designs using Figma.

Student Intern - Team Leader

8BillionIdeas • Dubai, UAE

06/2024 - 06/2024

- Led a team in developing and executing a comprehensive marketing strategy for the rebranding of a hypothetical company.
- Collaborated with team members to design wireframes and interactive prototypes for the website redesign.
- Applied user-centric UI/UX principles to improve website functionality, accessibility, and overall experience.
- Guided the team through the full rebranding lifecycle, fostering collaboration, creativity, and efficient workflow.
- Presented design concepts to mock stakeholders, incorporating feedback to refine deliverables and strengthen pitching and communication skills.

Projects

FormulaMetric

React, Node.js, MySQL, Express, Tailwind

- Designed full-stack F1 analytics platform using React, Node.js, Express, and MySQL with normalized schema, foreign keys, and indexed lookups.
- Created RESTful API with season, driver, and race filters, including pagination and query parameters.
- Implemented data ingestion from the Jolpica API, detecting missing race data and applying delays to avoid rate limits.
- Built regression, correlation, and sigmoid-based performance metrics for multi-season comparisons.
- Developed driver/team assignment logic including support for rotating lineups across seasons.
- Built interactive UI with MUI X gauges, charts, and responsive layouts, supporting comparison of up to 3 drivers.
- Implemented loading and fallback states to ensure smooth UX across data-intensive views.

Voxa Voice App - voxa.club

Next.js, TypeScript, Tailwind, Firebase, AssemblyAI, OpenAI

- Built real-time audio streaming pipeline: microphone capture, downsampling, base64 encoding, chunked audio frames, and continuous WebSocket transmission to AssemblyAI's API.
- Integrated live transcription into React state, handling partial and final segments with smooth UI updates and clean stream termination.
- Developed Firebase Functions for automated moderation, removing disallowed content across posts and replies.
- Deployed Recaptcha v3 sitewide via Firebase App Check to prevent malicious attacks and fraudulent activity, enforcing strictly authorized requests to servers.
- Implemented Firebase Auth, Firestore, and Storage for secure user accounts, posts, replies, bookmarks, and media.
- Rebuilt large portions of the app UI using TailwindCSS and shadcn/ui, replacing legacy components for improved performance and accessibility.
- Managed GitHub repo, Vercel deployments, environment configs, and multi-developer version control workflow.
- Integrated Google Analytics to track user behaviour and feature usage.

TLSearch – NASA Space Biology Search Engine

Next.js, FastAPI, Python, TailwindCSS, NASA Open Data

- Built a semantic search tool for NASA space-biology datasets, converting user queries and document metadata into vector embeddings and ranking them using cosine similarity.
- Implemented FastAPI endpoints that accept search queries, compute similarity scores in Python, and return ranked results as JSON.
- Loaded NASA datasets into Python and processed them in-memory for fast experimentation and retrieval.
- Developed a Next.js frontend that sends search requests to the FastAPI backend and displays results with a responsive TailwindCSS interface and SEO-ready metadata.
- Created a fully functional end-to-end pipeline integrating a vector-based search algorithm with a modern web UI.

Portfolio Website – aayanpathan.com

React, TypeScript, TailwindCSS

- Built a personal portfolio website using React and TypeScript with a clean, responsive layout.
 - Implemented animated backgrounds using Vanta.js to create a dynamic visual experience.
 - Added a custom loading sequence and smooth UI transitions with Framer Motion.
 - Integrated EmailJS to enable direct contact form submissions.
 - Designed all components with TailwindCSS for consistent styling and fast load performance across devices.
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Awards

International CS Competition (Bronze Finalist Top 8% intl.), Best Summer Intern - Voxa Voice App, Best Student - Computer Science Year 12 Cohort (2024–2025), 2x UKMT Bronze

Skills

NextJS, TypeScript, Tailwind, Node.js, Express.js, Firebase, MySQL, JavaScript, Python, GitHub, Figma