**TECHNICALACUMEN**

**Project Overview**

**TechnicalAcumen** is a modern, interactive web platform designed to empower learners, tech enthusiasts, and professionals with up-to-date resources on Artificial Intelligence, Machine Learning, and the latest industry trends. The site brings together curated learning paths, real-time tech news, hands-on coding blogs, and a vibrant community chatroom all under a unified, user-friendly interface.

Our mission: make an advanced learning site to learning emerging concepts and industry knowledge accessible, organized, and engaging for everyone from beginners to experts.

**Key Features**

* **Curated AI/ML Learning Modules:** Organized by topic, with resources, guides, and interactive tutorials.
* **Auto-Updating Industry News:** Real-time tech and AI news sections powered by RSS feeds.
* **Explore Page:** One-stop hub to browse courses, blogs, podcasts, and trending content.
* **Tech Blogs & Podcasts:** Categorized blogs and podcast carousels for in-depth learning and inspiration.
* **Community Chatroom:** Live chat and discussion forum, inspired by Discord, for users to interact, share, and learn together.
* **Calendar Feature:** Integrated calendar for scheduling, upcoming events, and training sessions.
* **Leaderboard & Feedback:** Gamified features to encourage active participation and gather user insights.
* **AI Chatbot (Lex):** AWS Lex-powered assistant for instant help, Q&A, and platform guidance.
* **AWS Chime Integration:** Live classroom sessions, webinars, and real-time communication using Amazon Chime.
* **SharePoint Classroom Materials:** Seamless access to classroom training materials via SharePoint integration.
* **Modern UI/UX:** Neon-inspired, dark-themed design for a seamless and visually striking experience.

**Backend & Automation**

* **REVA Automation:** Used Chime and LEX services for interactive chatroom and chatbot.
* **Database:** **PostgreSQL** for robust, scalable data storage and user management.
* **API/Server:** **Node.js** backend powering core APIs and integrations.
* **Security & Access Control:** Role-based permissions and secure access for all users.
* **CI/CD:** Automated deployments for fast, reliable updates.

**Tech Stack**

**Frontend:**

* **React.js** – Core framework for building dynamic user interfaces
* **HTML5 & CSS3** – Custom styles with modern responsive layouts
* **JavaScript (ES6+)** – Logic, interactivity, and integrations
* **Tailwind CSS** – Utility-first CSS for fast, consistent UI design

**Backend:**

* **Node.js** – Server-side application logic and API endpoints
* **Express.js** – Routing and middleware for RESTful services
* **PostgreSQL** – Relational database for user data, posts, and platform content

**Cloud & Automation:**

* **Amazon Lex** – Conversational AI for the integrated chatbot
* **Amazon Chime SDK** – Real-time communication (live chat, video calls)

**Integrations:**

* **SharePoint** – Access and embed classroom training materials directly on the site
* **RSS Feeds** – Auto-updating industry news, blogs, and podcasts

**Features & Libraries:**

* **FullCalendar** – Interactive calendar and event scheduling
* **Socket.io** – Real-time chat updates in community forum
* **JWT/OAuth** – Secure authentication and role management

**DevOps & Deployment:**

* **Git & GitHub** – Version control and team collaboration

**Folder Structure**

Below is a typical folder structure for the **TechnicalAcumen** project inside the server.

**Key Code Snippets**