Unionry.Ai

Abstract:

Matrimony AI is an AI-based matchmaking system designed to arrange suitable marriages for boys and girls from any location. The platform is available as both a web and mobile application, developed using Next.js with Tailwind CSS and shadcn/ui for the web and React Native (Expo) for mobile access. The backend is built using NestJS or FastAPI to efficiently manage application logic and user data. PostgreSQL with pgvector is used to store user profiles and enable intelligent, preference-based matching, while Redis improves system performance through caching and Amazon SQS handles background processing tasks. User images and documents are securely stored in Amazon S3 and delivered through CloudFront for fast access. A key advantage of the system is an AI-powered chatbot integrated using the OpenAI Responses API, which interacts with users, understands their preferences, suggests suitable life partners, and presents relevant profile data in a personalized manner. Moderation features are included to ensure safe, respectful, and reliable interactions. Overall, Matrimony AI provides a secure, scalable, and intelligent matchmaking solution.

Objectives of Matrimony AI

- To implement an AI-powered chatbot that interacts with users and suggests suitable life partners with relevant profile data.
- To develop a responsive web application and a cross-platform mobile application for easy user access.
- To maintain safe and respectful user interactions through AI moderation and content filtering.
- To design and develop an AI-based matrimony platform that works across all locations and cultures.

Outcomes of Matrimony AI project

- A fully functional AI-based matrimony platform accessible through both web and mobile applications.
- Secure and efficient storage and management of user data using cloud-based databases and services.
- Improved system performance and scalability through caching and asynchronous processing.
- A scalable and future-ready system that can support users from different regions and cultures.

Software Requirements:

Web: Next.js + Tailwind + shadcn/ui
Mobile: React Native (Expo)
Backend: NestJS (TypeScript) *or* FastAPI (Python)
DB: Postgres + pgvector
Cache: Redis
Queue: SQS
Storage/CDN: S3 + CloudFront
AI: OpenAI Responses API + Structured Outputs + Moderation
This keeps the system cohesive while giving you a clean path to scale.

Implementation

The Matrimony AI system uses a web and mobile interface to collect user profiles, which are processed by a backend service for secure storage and AI-based matching. An AI chatbot analyzes user preferences and suggests suitable life partners by retrieving relevant profiles from the database. Cloud services ensure fast performance, scalability, and safe interactions.

Flow chart

User (Web / Mobile App)

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Profile Registration & Preferences

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Backend API (NestJS / FastAPI)

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Database (PostgreSQL + pgvector)

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AI Matching & Chatbot (OpenAI API)

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Suggested Life Partner Profiles

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User Interaction & Feedback

Output:

- The system displays personalized life partner suggestions based on user preferences and compatibility.
- An AI-powered chatbot provides relevant profile details and guides users in selecting suitable matches.