

# HomeListingAI - Technology Stack

## ⚡ Front-End

- **Framework:** React 18 (built with Vite)
- **Language:** TypeScript
- **Styling:** Tailwind CSS (with PostCSS & Autoprefixer)
- **Routing:** React Router v6
- **State Management:** Zustand
- **UI Extras:** `lucide-react` (icons), `@dnd-kit` (drag-and-drop), `react-quill` / `react-simple-wysiwyg` (text editors)

## 🌐 Back-End

- **Server / Runtime:** Node.js with Express.js
- **Database & Authentication:** Supabase (built on PostgreSQL)
- **WebSockets:** `ws` package for real-time bidirectional communication.

## 🧠 AI & LLM Infrastructure

- **Primary AI Engine:** OpenAI (`openai` SDK for GPT-4 etc.)
- **Google AI:** Google Gen AI SDK (`@google/genai`)
- **Voice AI:** Custom integrations utilizing Vapi and Telnyx.

## 📞 Telecom & Communications

- **Voice & SMS:** Telnyx (primary telecom provider for phone numbers and SMS validation)
- **Email:** Mailgun (used for tracking opens/clicks and sending outbound drip campaigns)

## 💳 Payments & Billing

- **Payment Processor:** Stripe (specifically using the newly unveiled `2025-08-27.preview` V2 API and thin-events architecture for heavy backend billing automation)

## 🕷️ Automation & Utilities

- **Scraping:** Puppeteer and Cheerio
- **Analytics:** Google Analytics Data API (`googleapis` for GA4 tracking)
- **Background Jobs:** node-cron
- **Hosting / Deployment:** Built to deploy on Vercel for the front end, with a custom Node server for the back end.