

## **PostCraft-AI: AI-Powered Social Media Platform**

**Short Description:** PostCraft-AI is a high-performance web app leveraging **Google Gemini AI** to generate brand identities, campaigns, and professional social media content. It combines **cutting-edge AI models** with a modern **React + TypeScript frontend** and innovative visual overlay technology.

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**Technological Innovation:** - **Multi-Model AI Architecture:** - **gemini-3-flash-preview** for strategic reasoning, brand inference, and campaign planning. - **gemini-2.5-flash-image** for high-quality image synthesis aligned with brand identity. - **Human-in-the-Loop Refinement:** AI iterates based on user feedback for precise content generation. - **Custom Canvas Rendering Engine:** Uses **HTML5 Canvas** to overlay text, logos, and dynamic graphics on AI-generated visuals for professional, brand-aligned posts. - **State-Driven Workflow:** Linear, type-safe process from Brand Discovery → Campaign Intent → Content Synthesis → Agent Studio (review/edit).

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**Frontend & Deployment Innovations:** - **React (v19) + TypeScript:** Functional components, Hooks, and type safety ensure reliable UI and workflow management. - **Tailwind CSS & Glassmorphism UI:** Sleek dark-mode design with responsive grid layouts and smooth animations. - **Lucide React Icons & ES Modules:** Lightweight, modern architecture for fast client-side execution. - **Firebase Hosting / Netlify Optimized:** Environment-based API key management, lazy loading, and high-performance delivery.

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**Key Outcomes / Impact:** - Instant generation of text and images tailored to brand identity. - Iterative content refinement ensures high-quality, professional output. - Innovative combination of AI reasoning, visual rendering, and modern frontend technologies.

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**Core Technologies / Tags:** React, TypeScript, Tailwind CSS, Lucide React, Google Gemini API, HTML5 Canvas, ES Modules, Firebase Hosting, AI-Driven Content Generation