

ZEESHAWN MARSHALL

AI Development Engineer | ComfyUI | Generative Media | Full Stack Development

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PROFESSIONAL SUMMARY

AI development engineer and successful dubstep musician building ComfyUI extensions and full-stack image and video generation applications. Connects creative interfaces to serverless AI inference endpoints and uses self-developed tools to create music visuals. Background in software engineering leadership, robotics, and autonomous drone development.

TECHNICAL SKILLS

Generative AI: ComfyUI custom nodes, workflow development, image and video generation, reference-to-video, serverless GPU inference

Models: Image generation: Chroma, Flux, SDXL | Video generation: Wan, MiniMax, LTX

ML and Optimization: PyTorch, LoRA training, ControlNet, IP-Adapter, GPU/VRAM optimization

Development: Python, JavaScript, Node.js, React, HTML, CSS, REST APIs, JSON workflows, Git/GitHub, automated testing

Cloud: Google Cloud Platform (GCP), Cloud Run, Secret Manager, Firebase Hosting, Firestore, Amazon Web Services (AWS), Docker

AI ENGINEERING PROJECTS

ZEMTech Studio | ZEM AI ToolBox | Generative Media Web Platform

- Built a full-stack creative platform with AI brainstorming, image and video generation, reference-to-video animation, and a browser-based Video Editor. Added character templates, saved Scenes, image-to-video handoff, video extension from the last frame, and frame export.
- Developed a browser-based video editing timeline with clip reordering, trimming, splitting, selective audio muting, crop positioning, undo, frame extraction, and MP4 export. Implemented local project autosave and restoration of media, edits, playhead, and preview state, with mobile timeline controls.
- Designed an interactive, user-paced tutorial with page-specific introductions, highlighted controls, character creation, animation, video extension, and editing guidance; added contextual help and FAQs. Built a shared JavaScript API client and Node.js backend with asynchronous jobs, status polling, recovery, and media delivery; secured cloud inference with Secret Manager, tamper-resistant generation job tracking, request validation, and timeouts.

ZEM H3 Multi-Image Adapter | ComfyUI Custom Node

github.com/AlienZEM/zem-h3-multi-image-adapter

- Built a Python/JavaScript ComfyUI extension supporting up to nine reference images for MiniMax H3 video generation.
- Added image previews and numbered prompt tags while preserving image dimensions and model settings.
- Published a reusable workflow with setup documentation, input validation, and automated Python/JavaScript tests.

PROFESSIONAL EXPERIENCE

IWA Robotics | Director of Software Engineering

- Led autonomous drone development integrating NVIDIA Jetson Orin Nano onboard computing and custom-trained AI models for autonomous flight.
- Built the earlier company website and supporting backend; the current website is a replacement built by others. Developed the business structure alongside its technical infrastructure.

Pyrodrone | Software Engineer

- Built barcode-based inventory and shipping software, automated customer notifications, and improved front-end performance. Prototyped, produced, and sold drone components; troubleshooted and resolved their technical issues.

Ztech Innovations | Systems Engineering

- Built custom computers and drones; programmed and tuned PID control loops for more than 50 drones using an open-source C library.