



# DOMINIC TURSINI

Entrepreneur / Multi disciplinary Engineer & Designer

PORTFOLIO @ tursini.co.za



## PROFILE

I am a multi disciplinary Maker and Senior Multimedia Designer with over 14 years of experience across digital media, software development, and mechanical design.

My expertise spans UI/UX design, 3D modeling, CAD/CAM, embedded systems, and full-stack web development, with a strong focus on open-source tools and automation.

Founder of Apex Invent, a South African startup dedicated to advancing 3D printing technology through open hardware development and accessible DIY kits.

Self-taught in software engineering, I build automation tools, AI-powered assistants, and responsive dashboards using modern stacks like React, Node.js, and FastAPI. I am proficient in Linux systems, DevOps workflows, and deploying containerized services using Docker, Proxmox, and Kubernetes.

Driven by curiosity and rapid iteration, I thrive in technical problem-solving and merging physical and digital systems for product innovation.



## SOFTWARE & KNOWLEDGE

### Languages & Frameworks:

Languages: Python, JavaScript, TypeScript, HTML, CSS, Bash, C++

Frontend Frameworks: React, Angular, Tailwind CSS

Backend Frameworks: FastAPI, Node.js, Express

Automation & Integration: Node-RED, n8n, MQTT, REST APIs, Shopify API

### AI & Machine Learning:

LLM Workflows: LoRA / QLoRA fine-tuning Mistral, LLaMA and other models

RAG Systems: LangChain, vector databases, custom pipeline architectures

Inference & Deployment: Hugging Face, llama.cpp, Ollama, Open WebUI

Training Utilities: BitsAndBytes, PEFT, Transformers, tokenizers

### DevOps & Infrastructure:

Containerization & Orchestration: Docker, Kubernetes (K8s), Proxmox

Self-Hosting & Networking: Cloudflare Tunnels, Nginx, GitHub Actions

Version Control & Tooling: Git, GitHub, VS Code, Shell scripting

### Embedded & IoT Systems:

Platforms: ESP32, Raspberry Pi, Pi Pico, Arduino

Development Tools: Arduino IDE, PlatformIO

Protocols: MQTT, Zigbee



068 508 2410



dom@tursini.co.za

## CORE SKILLS

- **AI & LLM Engineering:** LoRA/QLoRA fine-tuning on Mistral, LLaMA and other models, RAG pipelines with LangChain & OpenAI APIs, assistant tooling, Open WebUI deployment, and local inference optimization.
- **Software Development & Automation:** Python, JavaScript, FastAPI, Node.js, React, MQTT, WebSocket integration, and modular automation with Node-RED.
- **DevOps & Self-Hosting:** Proxmox virtualization, Docker containerization, Kubernetes fundamentals, Nginx reverse proxying, and secure local deployment using Cloudflare Tunnels.
- **Embedded Systems & Hardware Design:** Experience with Raspberry Pi, ESP32, and Pi Pico, custom PCB development and mechanical system engineering.
- **Multimedia, UI/UX & Product Design:** Adobe Photoshop, Illustrator, CorelDraw, Fusion 360 [CAD], DaVinci Resolve, professional branding, and user-centered interface design.
- **Business & Product Development:** Full-cycle product design and deployment, open-source hardware kits, Shopify integration, and community-focused digital tool creation.

## PROFESSIONAL EXPERIENCE

### Apex Invent

Founder & Lead Developer / Engineer · 2019 – Present

- Founded Apex Invent, a self-funded startup focused on open-source 3D printing systems, automation, and market driven online store.
- Engineered and launched DIY electronics kits including the Basilisk Macro Pad and multi-platform compatible hardware tool chains.
- Developed custom business tools and dashboards using React, Python, and Node.js with Shopify integration for seamless operations and record keeping.
- Built AI-powered assistants including Klipper Assistant (embedded 3D printer support) and the SA Tax Law Advisor using fine-tuned LLMs and RAG pipelines.
- Designed, programmed, and deployed embedded systems using ESP32, Pi Pico, and Pi Zero W for data collection, system automation, and user interaction.
- Designed end-to-end product cycles, including CAD prototyping, firmware logic, backend APIs, and UI/UX design.

### Media & Design Industry

Multimedia Designer & Creative Director · 2009 – 2023

- Over 14 years of industry experience across branding, digital content, user interface design, and visual media.
- Delivered full-service design solutions for clients, including identity development, packaging, and digital rollout strategies.
- Specialized in cross-platform visual production using Adobe Creative Suite, CorelDRAW, DaVinci Resolve, and modern UI/UX tools, including branding and print.
- Directed video post-production pipelines and delivered marketing assets for both print and digital platforms.

## EDUCATION

Completed a Diploma in Multimedia and Web Design at Damelin College in 2012, where I studied graphic design, web development, and multimedia production. Since then, I have pursued over a decade of self-directed learning in engineering, software development, automation, and AI. My technical knowledge has been shaped by hands-on prototyping, open-source collaboration, and deep engagement with documentation and real-world problem solving.

dom @ tursini.co.za

## BRANDS I HAVE WORKED WITH

