Justin Parsons

Automation Engineer | Data Infrastructure & Pipeline Mechanics

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SUMMARY

Data & Automation Infrastructure Engineer with 10+ years running industrial packaging and controls systems, now applying the same discipline to data. I build containerized PostgreSQL environments and Python-driven pipelines that automate schema migrations, batch ingestion, and analytic cost reporting, treating every pipeline like a production line: instrumented, repeatable, and built to run without babysitting.

TECHNICAL SKILLS

Languages: Python, SQL, C / C++, Bash, TypeScript, MATLAB
Databases & Pipelines: PostgreSQL, SQLite, Relational Schema Design, Batch Ingestion, psycopg2, Analytic SQL, Cost-Matrix Pricing Logic
Tools & Infrastructure: Docker Containerization, WSL / Hypervisors, Linux Admin, Git, Self-Hosted Servers, Cloudflare Tunnel, IP Networking
Web & Application: React, React Three Fiber (3D), WebAssembly File Parsing, Stripe Checkout, Streamlit, AI-Assisted Automation
AI & Machine Learning: Local LLMs (Ollama / Gemma), ComfyUI, Stable Diffusion, PyTorch, TensorFlow, Generative Pipelines, Prompt Engineering
Industrial Controls & Electrical: Allen-Bradley PLCs, Ladder Logic, HMI Setup, Analog / Digital I/O, Line Control Integration, Pneumatics & Hydraulics, Electrical Diagnosis, Induction Heating
Mechanical & Design: SolidWorks, Fusion 360, CAD / CAM, STEP / DWG Workflows, Blueprint Reading, Machining, Welding & Fabrication, PCB Design
Process & Quality: Process Optimization, Quality Control Integration, Preventive Maintenance, Equipment Calibration, Recipe Management, Troubleshooting Guides, SAP, Technical Writing

HIGHLIGHT PROJECT

Data-Automation-Pipeline-V1 | **Python, psycopg2, PostgreSQL, Docker, WSL2, SQL**
End-to-end data pipeline that uses Python connection drivers (psycopg2) to reach through the network layers of a local, Docker-hosted PostgreSQL instance and fully automate the database lifecycle.

- **Containerized database host:** PostgreSQL runs inside a Docker container with mapped ports and persistent volumes, so the whole environment can be torn down and rebuilt identically on any machine.
- **Network-layer connection:** Python connects across the container's network boundary through psycopg2, handling host/port mapping, credentials, and transactional cursors from WSL into the container.
- **Automated drops & structural migrations:** Scripts drop stale objects and apply schema migrations in order, creating tables, keys, and constraints so the relational model is rebuilt idempotently on every run.
- **Batch uploads:** Source records are loaded in batches inside transactions, so a failed batch rolls back cleanly instead of leaving partial data behind.
- **Analytic SQL cost calculations:** Aggregation queries calculate cost metrics directly in the database and return reporting-ready results to Python.

BUILD LOG: LOVABLE PROJECTS

- **Personal Landing Page:** First Lovable build: a one-page site introducing my engineering, AI, and creative disciplines, published live. Skills: React, AI-Assisted Automation, Technical Writing
- **Business Portfolio & Storefront:** Grew into a multi-page business site: portfolio galleries, two resumes, a quote and custom-request system with email, a merch store with Stripe checkout, and a self-hosted media feed. Skills: React, TypeScript, Stripe Checkout, Self-Hosted Servers, Cloudflare Tunnel, Python, SQLite

- **Business Card Generator:** Tool that lays out printable business cards (front and back, horizontal and vertical) from a profile of skills and contact details. Skills: React, TypeScript, Technical Writing
- **Streaming Hub:** Central page for streaming content with integrated social and channel links, published live. Skills: React, TypeScript
- **Signal Identity Creator:** Brand-system tool that defines color tokens, typography, and identity pages, with AI-generated artwork held to written art-direction rules. Skills: React, Generative Pipelines, Prompt Engineering, Stable Diffusion
- **Factory Spec Builder (inside the business site):** 3D CAD upload and quoting tool: parses STEP files in the browser, measures parts, and prices material, process, and assembly. Skills: React Three Fiber (3D), WebAssembly File Parsing, STEP / DWG Workflows, CAD / CAM, Cost-Matrix Pricing Logic, Stripe Checkout
- **Data & Automation Resume (this page):** Recruiter-ready portfolio with an interactive skill matrix and one-click PDF, Word, RTF, and text resume exports. Skills: React, TypeScript, Python, PostgreSQL, Docker Containerization

ADDITIONAL BUILDS

Factory Spec Builder | **React Three Fiber, WebAssembly, TypeScript, Stripe**
Browser tool that parses uploaded STEP/CAD files with WebAssembly, renders them in interactive 3D, measures part dimensions, and runs a cost-matrix engine for material, process, and assembly pricing through to checkout.

Self-Hosted Promo Pipeline | **Python, SQLite, Cloudflare Tunnel, Linux**
Automated content pipeline running from a home server: Python and SQLite manage a weighted rotation schedule, delivered securely through a Cloudflare Tunnel with origin validation.

Local AI Video Studio | **Ollama, Gemma, Streamlit, ComfyUI**
Fully local generative workflow: a Gemma model on Ollama develops prompts, a Streamlit controller directs the pipeline, ComfyUI renders video, and results are cataloged in a self-hosted media library.

AI Artwork Workflow | **AI Image Generation, Compositing, WebP Delivery**
Repeatable AI image pipeline with written briefs, brand-consistency rules, review checkpoints, and optimized delivery formats, documented step by step.

EXPERIENCE

Founder & Full-Stack Builder, Justin Samuel Parsons (Independent) | **2025 - Present**
- Designed, built, and run a multi-page business platform: portfolio, resumes, quote and custom-request intake with email, and a merch store with Stripe checkout.
- Shipped seven published web apps with Lovable, each with its own visual system: neon signal-wave, Miami-color brand tokens, dark technical, and print layouts.

Data & Automation Engineer (Independent) | **2025 - Present**
- Built Data-Automation-Pipeline-V1: containerized PostgreSQL with Python-driven migrations, batch loads, and analytic SQL.
- Built a self-hosted promo pipeline on a home server with Python, SQLite, weighted rotation, and Cloudflare Tunnel delivery.
- Run Linux, Docker, and WSL/hypervisor environments with Git-based workflows.

CAD & Manufacturing Spec Developer (Independent) | **2025 - Present**
- Built the Factory Spec Builder: browser STEP/CAD parsing, interactive 3D measurement, and cost-matrix pricing for material, process, and assembly.
- Take custom fabrication and machine-build requests from spec to quote.

AI Systems & Generative Media Developer (Independent) | **2025 - Present**
- Built a fully local AI video studio: Gemma on Ollama for prompting, a Streamlit controller, ComfyUI rendering, and a self-hosted media library.
- Created a documented AI artwork workflow with briefs, brand rules, review checkpoints, and optimized delivery files.

Brand & Visual Identity Designer (Independent) | **2025 - Present**

- Built Signal Identity Creator: color tokens, typography, and identity pages for a full brand system.
- Designed business cards, website banners, and merch artwork (apparel, bracelets, decals) for print and the web.

Content Creator & Streamer (Independent) | **2025 - Present**

- Built and run a streaming hub that brings channels and social links together in one branded page.

Electronics & Hardware Repair (Independent) | **Ongoing**

- Repair computer hardware, handheld devices, and consumer electronics: diagnosis, soldering, and component replacement.

Engineering Technician, Hydro Precision Tubing (Rockledge, FL) | **2021 - 2026**

- Installed new equipment end to end: power, line controls, pneumatics, mechanical assembly, and fabrication.
- Integrated measuring equipment with analog/digital I/O for temperature, flow, and pressure data.
- Used software data readings to link process and quality problems, driving fixes through to stable full-time production.
- Diagnosed electrical faults and edited PLC controls logic.

Maintenance Technician, CKS Packaging (Orlando, FL) | **2020 - 2021**

- Kept extrusion and preform blow-molding lines running, including palletizers, grinders, and material conveying.
- Repaired and rewired chillers, material heaters, metal separators, leak detectors, and vision systems during production.

Field Service Technician, Packaging Efficiency Solutions (Denville, NJ) | **2018 - 2020**

- Installed, wired, and integrated pharmaceutical packaging lines into line-control PLCs.
- Set up HMIs and recipe management; performed changeovers and field repairs across mechanical, electrical, and PLC issues.
- Designed and built custom fabrication in the field and in the shop.

Industrial Mechanic & Maintenance Roles (Polyfil, EconoPAK) | **2013 - 2018**

- Maintained extrusion, pelletizing, and packaging machinery, including film webbing and induction sealing systems.
- Ran preventive maintenance schedules, welding/fabrication projects, and machine modifications.
- Worked with HMIs, pneumatic and hydraulic systems, and test-ran redesigned machinery.