

# Christian Joudon

SOFTWARE ENGINEER · FULL-STACK · AI / DATA · PRODUCT DESIGN

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## SUMMARY

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Software engineer who designs and builds full-stack web applications, AI-driven data pipelines, and fintech systems end to end. A biochemistry background and years of professional creative work bring a designer's eye for finished products and the communication skills to bridge engineering, design, and marketing teams. Fluent across React, Next.js, Python, PostgreSQL, REST APIs, LLM-powered NLP, and large-scale data processing, with a focus on user-centered design, scalable architecture, and turning messy real-world data into clear decisions.

## TECHNICAL SKILLS

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**Languages:** Python, JavaScript, TypeScript, SQL, Java, C/C++, R, HTML, CSS, GDScript

**Frontend & Design:** React, Next.js, Vue.js, Tailwind CSS, Bootstrap, Framer Motion, jQuery, responsive UI/UX, product & visual design, design systems, Adobe Photoshop, Canva

**Backend, Data & APIs:** Node.js, PostgreSQL, MongoDB, NoSQL, REST APIs, Alembic, database & schema design, ETL pipelines, event-driven architecture, webhooks

**AI & Data Engineering:** LLMs, NLP, prompt engineering, PyTorch, TensorFlow, Scikit-Learn, spaCy, NLTK, FAISS, semantic search, Apache Spark, PySpark, Databricks, Pandas, NumPy, Pydantic, data visualization (D3.js, Plotly.js, Observable, Matplotlib, Seaborn)

**Automation & Integrations:** Stripe, QuickBooks, Zapier, Gmail & Drive APIs, Google Apps Script, Clay, Retool, Mapbox, Formspree

**Tools & Platforms:** Git, GitHub, AWS, Linux, Vercel, Anaconda, Raspberry Pi, FFmpeg, Godot, Meteor.js, Excel, Microsoft Office, Google Workspace

## EXPERIENCE

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### Software Engineer

Nov 2025 - Present

HiTech Labs · Kaua'i, Hawai'i · Part-time

- Architecting HAVEN, a ledger-first trust-accounting and reservation-management platform, in active agile sprints — with trust-accounting controls, owner-balance protections, and document-linked audit trails on a normalized PostgreSQL data model.
- Built a scalable NLP pipeline that converts unstructured medical encounter notes into clean, structured datasets using LLM-driven text processing and Pydantic validation.
- Integrated FAISS for semantic medication matching and used Apache Spark to analyze comorbidities, medication frequencies, and demographic trends, producing visualizations that informed clinical decisions.
- Developed Chime, a React calendar and booking application with Stripe payments and a fluid, zero-reflow interface built in Tailwind CSS and Framer Motion.
- Integrated payment processing and external APIs (Stripe, AMEX), designed and maintained relational database schemas, and built and deployed responsive production websites end to end.

### Accounting Operations & Systems Development

Jun 2025 - Present

Hawaii Life · Kilauea, Hawai'i · Full-time

- Prototyped AI invoice extraction using schema-constrained prompts, validation layers, and human-in-the-loop review, reaching ~87–93% structured-data accuracy.
- Cut manual data-entry time 60–75% by automating file naming, date parsing, and memo formatting through parsing and validation rules.

- Built normalized data schemas for insurance and invoice records and developed secure upload portals with responsive, mobile-first design and automated validation.

## Creative Writer

Dec 2019 – Present

Freelance · Screenwriting, songwriting & narrative

- Write and develop feature screenplays, short films, 200+ song lyrics (20 released on Spotify), and a children's picture book — building the creative eye and storytelling sensibility that strengthen product and UX work.
- Apply long-form project management and cross-disciplinary communication to bridge creative, marketing, and engineering perspectives.

## ADDITIONAL EXPERIENCE

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**Real Estate Marketing Copywriter** · Freelance · 2019–2021 — Property listings, MLS copy, agent bios, and branded digital and print marketing across Zillow, Redfin, and Realtor.com.

**Project Manager** · Bacchus LLC · 2018–2020 — Managed residential real-estate developments on budget and schedule, coordinating architects, builders, and designers.

**Food & Hospitality** · Multiple establishments · 2010–2018 — Front-of-house operations, team training and mentorship, and a recipe cost-analysis system that improved profitability.

## SELECTED PROJECTS

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**Global Events & Market Trends** — Interactive data-visualization system (D3.js, Plotly.js, Observable) analyzing how wars and pandemics correlate with stock-market and GDP trends, with geospatial views and real-time filtering.

**Coral-Reef Audio Monitoring** — Python pipeline for streaming, recording, and visualizing live audio from SRT streams and microphones, with real-time waveform, FFT, and spectrogram views (Matplotlib, FFmpeg) on Raspberry Pi.

**UHNify** — Full-stack campus club-management platform (React, Meteor.js, MongoDB) with real-time event synchronization and membership management.

**Terran and the Wrath of the Wildwoods** — 2D rogue-like wave-defense game (Godot, GDScript) with hitbox-precise combat, modular ability systems, and escalating enemy AI.

## EDUCATION

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### University of Hawai'i at Mānoa

2020 – 2024

B.S., Computer Science · GPA 3.79 · O'ahu

Relevant coursework: Data Structures, Machine Learning, Web Development, Database Systems.

## LANGUAGES

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**English** (Native) · **French** (Proficient) · **German** (Intermediate)