

MONICA GONSALVES

SOFTWARE ENGINEER | BACKEND & FULL-STACK SYSTEMS | LINUX INFRASTRUCTURE
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PROFILE

Software engineer with 16 years of independent professional client development since 2010. B.S. Computer Science, UC San Diego. Build, deploy, and maintain backend services, full-stack applications, data-processing tools, and Linux infrastructure using Go, Python, PHP, TypeScript, and relational databases. Implemented neural networks from scratch in Python.

TECHNICAL SKILLS

Languages: Python, Go, PHP, TypeScript, JavaScript, Java, C++, SQL

Backend & data: Fastify, Node.js, Flask, REST APIs, PostgreSQL, MariaDB/MySQL, Prisma, relational modeling, parsing & validation

Frontend: React, Next.js, Vite, HTML/CSS, responsive interfaces, reusable components

Infrastructure: Linux, rootless Podman, Docker, systemd, Quadlet, nginx, Unix sockets, SSH/TLS, service isolation

Engineering: Git, unit/integration testing, Playwright, debugging, algorithms, technical documentation, deployment verification

PROFESSIONAL EXPERIENCE

Independent Software Engineer Self-employed 2010–Present

- Deliver and maintain client websites and database-driven applications from requirements through deployment and ongoing support.
- Progressed from PHP applications to multi-service products using Go, Python, TypeScript, React, and PostgreSQL.
- Own system design, APIs, data models, security, testing, Linux hosting, and operational maintenance.

SELECTED ENGINEERING WORK

PammyPanel Self-Hosted Application & Systems Administration Production platform
github.com/lesfleursdelanuitdev/PammyPanel

- Built full-stack administration platform for production websites: database tools, visual schema designer, WordPress, media/file management, and forms.
- Designed least-privilege Linux integration using restricted helpers, dedicated accounts, Unix sockets, and systemd activation.
- Integrated TypeScript/Fastify, React, relational databases, rootless Podman, Quadlet, nginx, automated tests, and deployment verification.

Ligneous Genealogy, Research & Visualization Live
gonsalvesfamily.com github.com/lesfleursdelanuitdev/Ligneous

- Deployed multi-service genealogy platform: Go GEDCOM processor, Python/Flask analytics, Next.js, PostgreSQL, and Linux containers.
- Developed Go library for lossless parsing, normalization, validation, export, and fuzzy genealogical record reconciliation.
- Built APIs and reusable React/TypeScript components for genealogical charts, linked stories, and generated albums.

EDUCATION

University of California, San Diego B.S. Computer Science 2016

Coursework: Data Structures & Algorithms, Discrete Mathematics, Compilers, Neural Networks, Data Analysis.

- Neural Networks (2015), Prof. Gary Cottrell: implemented Python neural networks from scratch, including RNNs and backpropagation; used Caffe for CNNs.

ADDITIONAL EXPERIENCE

Undergraduate Tutor & Course Website Developer UC San Diego Winter 2012

- Tutored CSE 21 (Mathematics for Algorithm and Systems Analysis), taught by Prof. Ronald Graham; supported combinatorics, recurrences, and graph theory.
- Selected to develop the course website using prior professional development experience; its template remained in use through at least 2025.

Fine-Art Photographer & Digital Content Creator Les Fleurs de la Nuit 2018–Present

- Built independent fine-art photography brand with approximately 34,200 Instagram followers; lead photography, editing, and publishing.
- Collaborated with NVIDIA Studio on 10-part Photoshop/Lightroom tutorial series (2023); photography featured on Britney Spears' official Instagram.