THOMAS LONGOBARDI

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SUMMARY

Software engineer building full-stack, AI-assisted applications: async Python (FastAPI, SQLAlchemy) backends, React frontends, and GPU-backed generation pipelines. Built and self-hosted Storyboard Pro, a multimodal LLM, image, video, and 3D platform serving 115 REST endpoints on a personal k3s cluster. Targeting backend, full-stack, or AI/ML roles where I can own features end to end.

SKILLS

AI & ML Ops: RLHF (Handshake Fellowship), local LLM deployment (llama.cpp, RTX 3090), ComfyUI pipelines, PyTorch, XGBoost, scikit-learn.

DevOps & Cloud: Docker, Docker Compose, Kubernetes (k3s), Linux, Azure, Git.

Development: Python, Java, JavaScript/TypeScript, React, FastAPI, REST APIs, PostgreSQL/T-SQL, SQLAlchemy.

Certifications: AI Fluency (2026), Claude 101 (2026), WGU AI Optimization Developer (2026), WGU Java Developer (2025), ITIL v4 Foundation (2025), LPI Linux Essentials (2025).

EXPERIENCE

AI Trainer Nov 2025 – Feb 2026

Handshake AI Fellowship — Remote

- **RLHF & Model Alignment:** Ranked, critiqued, and prompted 50+ model responses across LLM and diffusion tasks, scoring each against rubrics for factual accuracy, safety, reasoning, and output quality.
- **Multimodal Optimization:** Authored 70+ high-complexity training samples across audio, visual, and text formats, labeling in-painting, out-painting, and editing tasks for prompt adherence on unstructured data.
- **Data Synthesis:** Sharpened model handling of spatial relationships and action sequences, sustaining a 1.8 quality score across submitted tasks.

PROJECTS

Storyboard Pro *Python · FastAPI · SQLAlchemy · React · ComfyUI · k3s*

- Built and self-hosted an AI storyboard studio that expands a one-line premise into scenes, characters, locations, props, and rendered frames, across 115 REST endpoints in 19 async FastAPI routers.
- Paired 19 ComfyUI workflow graphs with JSON node maps, making a new image, video, or 3D model a config change rather than a code change.
- Engineered an async job worker with exponential-backoff retries and orphan reaping, so overnight render batches survive the browser closing.
- Extended the pipeline from stills into image-to-video, reference-to-video, and pose-transfer clips, plus 3D blocking with depth, edge, and segmentation maps — all inference running locally on dual GPUs (Qwen3.5-9B via llama.cpp), containerized with Docker Compose on a personal k3s cluster.

ICU Mortality Risk Triage (P.M.P. Model) *Python · XGBoost · scikit-learn · pandas*

- Diagnosed a non-reproducible result in which the selected decision threshold shifted between machines, swinging model recall from 79% to 58%; root-caused it to an argmax over a statistically flat F1 curve and replaced it with a deterministic, requirement-driven selection rule.
- Audited the training pipeline and eliminated four data leakage paths — pre-split feature scaling, cross-validation over the full dataset, a threshold tuned on the held-out test set, and oversampling applied outside CV folds — correcting an artificially low variance estimate that had overstated generalization.
- Benchmarked a gradient-boosted classifier over 15,000 synthetic ICU records against established clinical severity scores and reported threshold-independent metrics, establishing that the dataset carried limited predictive signal rather than reporting a single favorable operating point.

WGUPS Package Routing Program *Java · Data Structures · Algorithms*

- Engineered a Java logistics application that automates package delivery tracking and routing.
- Implemented a custom hash table for O(1) package lookups and a priority-based nearest-neighbor algorithm that completed all 40 deliveries in under 110 miles.

EDUCATION

B.S., Computer Science — *Western Governors University, Salt Lake City, UT* 2026

A.A.S., Physical Therapist Assistant — *Houston Community College, Houston, TX* 2020