Luke Young

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SKILLS

- **Languages:** Python, C#, Bash **AI/ML:** Whisper, PyTorch, Ray, OpenAI/Anthropic/Gemini APIs **Frameworks:** React, Next.js, .NET, FastAPI **Cloud:** AWS, GCP (Cloud Run, Transcoder, Storage) **Data:** PostgreSQL, Supabase, Elasticsearch **DevOps:** Docker, Git, RabbitMQ, CI/CD, Linux (PipeWire/PulseAudio)

WORK EXPERIENCE

Catalyst Operations & Analytics
Vienna, VA
Software Engineer
Jan 2025 – Jan 2026

- Architected and built Illumina, Castor, and Mercurio—offline AI platforms for transcription/translation, media synthesis, and document analysis—delivered for national-security deployments across the Middle East.
- Rebuilt Castor from scratch in <3 months (replacing a ~2-year legacy codebase), added diffusion-based lip sync (KeySync), and cut build times from ~90 minutes to minutes; provisioned three air-gapped Linux desktops.
- Designed Illumina's multilingual batch pipeline (audio/PDF/image/text) with diarization, in-place translation preserving layout, hybrid search (boolean + semantic), and Ask-AI agent summarization; ~4 TB/day throughput and <1 s Elasticsearch latency.
- Built Mercurio offline real-time translation: <200 ms ASR with faster-whisper + Silero-VAD, Hunyuan-MT translation, and an Electron/React UI with dual-line captions and searchable session history.
- Integrated SOTA open-source models (LivePortrait, realvisxlv5, PuLID, FaceFusion/HiFiFace) into GPU pipelines orchestrated with Ray and RabbitMQ.

Technologies Used: Python, FastAPI, Ray, RabbitMQ, PostgreSQL, Elasticsearch, React, Electron, FFmpeg, CUDA

Quikirr
New York, NY
Software Engineer (Part-time → Full-time)
Oct 2025 – Present (Full-time Jan 2026)

- Building financial analysis tools for private equity in Quikirr's Excel JS add-in; shipped enrichment, benchmarking fixes, storage persistence fixes, and integration tests.

Technologies Used: TypeScript, React, Next.js, Supabase, Zustand, Excel JS Add-in, Vitest

Quikirr
New York, NY
Software Engineer Intern
May 2024 – Sept 2024

- Developed a Recurring Revenue Analysis system for Quikirr's SaaS platform, cutting processing from 3 days to 15 seconds.
- Spearheaded a WACC DCF module in Quikirr's Excel suite, automating modeling and cutting generation from 2 hours to 5 seconds.
- Engineered an AI-driven data analysis pipeline for contextual interpretation, reducing insight generation from 4 hours to 90 seconds.
- Built automated chart generation integrated with ThinkCell's API, streamlining professional-grade visualizations.

Technologies Used: C#, XAML, MVC, COM interop, JSON, LLMs, ThinkCell API

m_vis
New York, NY
Contract Engineer
May 2024 – Present

- Built *Allumare*, a 3-stage AI video pipeline (Replicate → GCP Transcoder 4K → FFmpeg) handling 100+ concurrent renders and live dashboards.

Technologies Used: Next.js, React, NextAuth.js, Supabase, FFmpeg, Replicate API, Google Gemini API, Vercel

Ava (Secretary.my)
New York, NY
Co-founder & Software Engineer
Aug 2024 – Feb 2025

- Built an AI assistant for Gmail, Calendar, iMessage, and voice (Twilio/ElevenLabs); ~10k events/day.

Technologies Used: Python, Twilio, ElevenLabs, Pydantic, Supabase, AsyncIO

EDUCATION

Georgetown University
Washington, DC
B.S. in Computer Science
May 2025

- GPA: 3.6/4.00

AWARDS

- First Prize — Elite International Music Competition (Classical Piano), Carnegie Hall (2018, 2019, 2020).