Miller Downey

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Education

Bachelor of Engineering Science in Software Engineering (BESc) — London, ON
Western University — *Sept. 2023 – Apr 2028*

Experience

Software Engineer — May 2025 – Aug 2026
Mave — *Toronto, ON*

- Scaled customer onboarding **40× (4 → 160 concurrent users)** via research-pipeline optimization, **AWS ECS/Fargate** autoscaling, and **Django-Q** task delegation; powering growth from **0 to 280 users and 1,000+ agents**; earned **4× contract extension (4 → 16 mo)**
- Architected a multi-agent AI research orchestration system coordinating **4 concurrent agents** (Perplexity, OpenAI, Grok) via parallel ThreadPoolExecutor with timeout handling and cross-agent result aggregation
- Built a **4-stage parallel inference pipeline** producing brand stories, content strategies, interest profiles, and location intelligence per agent (OpenAI + Google Places), plus 30-day marketing plans, HubSpot CRM sync, and PDF blueprint delivery via S3/email
- Integrated **8+ external APIs** (OpenAI, Perplexity, Google Places, HubSpot, Slack, Meta, Repliers MLS) into a **multi-tenant Django REST API** with JWT auth, async Django-Q queues, and Slack Block Kit notifications

Software Engineer — May 2024 – Sept 2024
Sliq, Harvard Business School — *Boston, MA (remote)*

- Built Python scraping pipelines (BeautifulSoup, Selenium) for LinkedIn profiles, YouTube transcripts, and SEC filings (10-K, 10-Q); ran OpenAI sentiment analysis across structured + unstructured sources
- Shipped the product landing page in React with framer-motion / motion.dev for dynamic UI

Projects

2holl.is | *TypeScript, Three.js, GSAP, Web Audio API, Supabase, Cloudflare* — Sept 2025 – Present

- Built a cinematic 3D intro that plays on scroll (lightspeed renderer, Draco models, particle systems) and an interactive cylinder timeline of **605+ items** with momentum scrolling, fuzzy search, and community submissions through Supabase
- Implemented a full Web Audio engine: 3-band EQ, reverb/delay/flanger, BPM/key detection, waveform viz, dual-deck DJ mixing, and **local TensorFlow stem splitting**

TrickyClip | *Python, FastAPI, SQLite, ONNX Runtime, OpenCV, FFmpeg, React, Cloudflare* — Jan 2025 – Present

- Fused **V-JEPA 2** video embeddings, an EfficientAT audio tagger and **200 Hz GoPro IMU** into a 4 Hz feature stream; a temporal model finds each run and five event types, then **RF-DETR** rider tracking refines takeoffs and landings at full frame rate
- Shipped as a **$99** Windows app at trickyclip.com: FastAPI + SQLite job worker, one model on the GPU at a time through ONNX Runtime, NVENC smart cuts, and personal models that retrain on each user's keeps and trashes

Tact-Aid: The Blind Rock Climbing Solution | *Blender, Onshape, Photoshop* — Sept 2023 – Feb 2024

- Won **1st place + People's Choice Design Award** (120 teams, 700+ participants); designed a tactile 3D-printed plaque system for visually impaired climbers at **$1.73/unit**

Awards

Digital Citizenship Graduation Award | *STEM Fellowship · RBC Future Launch* — 2023

- Recognized nationally for digital leadership and responsible technology use; awarded RBC Future Launch mentorship and full LinkedIn Learning access

Technical Skills

Languages: Python, TypeScript, JavaScript, Java, SQL, HTML/CSS, C#
Frameworks: Django, Django REST Framework, Django-Q, FastAPI, React, Three.js, SvelteKit, Node.js
Infrastructure: Docker, AWS (ECS/Fargate, S3), Google Cloud, Cloudflare (Pages, Workers, R2), Terraform
Libraries/APIs: OpenAI, Anthropic (Claude, MCP), Perplexity, TensorFlow / TFLite, OpenCV, Celery, GSAP, Supabase, HubSpot, Slack API