Roger Kutyna

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EDUCATION

Clark University, Worcester, MA *May 2026*
M.Sc. Information Technology, Concentration in Generative AI GPA 3.85

- Coursework: Generative AI Model Development, AI Ethics & Governance, Network Architecture & Design, Data Mining & Visualization, Cybersecurity Fundamentals

B.A. Computer Science & Sociology, Summa Cum Laude, May 2025 GPA 3.82

- Coursework: Algorithms, Data Structures, Operating Systems, Database Management, Assembly & Computer Organization, Automata Theory, Programming Languages, Data Science, Software Engineering

TECHNICAL SKILLS

- **AI/ML:** PyTorch, NumPy, YOLO, ResNet, LLM fine-tuning, agent orchestration, tool use, MCP, RAG, LLM evals, grounding and verification, computer vision
- **Languages:** Python, Java, SQL, OCaml
- **Frameworks & Tools:** FastAPI, Streamlit, Django, Pandas, n8n, Ollama, LangChain, Docker, Git, Grafana, Nginx
- **Data & Infrastructure:** PostgreSQL, SQLite, Redis, Linux (Ubuntu), systemd, Tailscale, GCP, DigitalOcean, Kaggle

PROJECTS

Health Advisor — Production Agentic System *2026*

- Designed and operate a production agentic health system spanning 10 years of Apple Health data; 72 days live with zero missing days.
- Enforced a boundary through custom MCP tools with four verification layers (grounding, per-claim recomputation, an LLM judge, deterministic fallbacks) that reject 53% of model-stated numbers and drop 49% of generated research findings so that the LLM attached to the system cannot surface fabricated numbers to the user.
- Implemented a standing audit program that has caught six classes of silent data corruption, and ensures that the conclusions underpinning the fitness plan stay current.
- Migrated inference from a local 9B model to a hosted frontier model after profiling prompt-processing throughput, keeping the local backend as automatic failover and every verification layer unchanged.

BirdBrained — Computer Vision & ML Pipeline *2026*

- Built an end-to-end bird species identification pipeline using YOLO detection and a fine-tuned ResNet-50 classifier across 404 species and 166,510 images from three combined datasets.
- Reached 94.3% top-1 on a held-out 9,718-image test set, adding external training data while validation and test stayed single-source to isolate the gain from contamination.
- Ran a 73-iteration autonomous hyperparameter search that edited its own training code, promoted checkpoints on validation only, and reverted 45 attempts.

Autolist AI — Agentic Workflow Engineering *2026*

- Built an n8n-orchestrated agent that generates a complete product listing from a single photo, chaining vision models, LLM tool calls, and web research; resolved branding drift across steps by generating one upstream branding direction and passing it to every downstream generation.

EXPERIENCE

Clark University, Worcester, MA *Sep 2024 – May 2025*
Teaching Assistant, Algorithms (CS 160)

- Led weekly office hours on algorithm design, complexity analysis, and problem-solving technique.
- Guided students through sorting, searching, graph algorithms, and dynamic programming.

LEADERSHIP & INTERESTS

- Founding Member & Outreach Coordinator, Clark University Jam Club.
- Bird Photography & Wildlife Conservation. Active birder and nature photographer.