

Jakub Nowicki

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EDUCATION

University of Evansville - Evansville, IN

Expected May 2027

B.S. in Computer Science and Applied Mathematics | GPA: 3.56/4.0 | Dean's List: 2023-2025

Relevant Coursework: Machine Learning, Linear Algebra, Databases, Cryptography, Differential Equations, Operating Systems, Computer Architecture, Discrete Mathematics, Probability, Mathematical Statistics, Programming Languages

EXPERIENCE

Ruby Care - Berlin, Germany

June 2025 - August 2025

Software Engineering Intern

- Built responsive web interfaces for an AI powered telehealth platform serving cancer patients and their families
- Shipped patient onboarding and appointment scheduling features connecting users with nutrition, mindfulness, and mental health specialists via secure video consultations
- Built health tracking and journaling tools enabling patients to log treatment progress and review medical history

PROJECTS

AI for Traffic Safety: Real Time YOLO Based Incident Detection System

February 2025

- Built a real time accident detection desktop app in Python (OpenCV, Tkinter, YOLOv8) supporting image and video input with adjustable confidence thresholds and automated Excel logging
- Achieved 98.8% mAP50 and 97.2% mAP50-95 on accident classification after 100 training epochs; findings accepted and published at an IEEE conference

Reinforcement Learning Traffic Signal Control (SUMO)

April 2025

- Developed a Q-learning agent with a multi objective reward (wait time, CO₂ emissions, throughput) to optimize traffic signal timing at a two way intersection using the SUMO-RL framework
- Reduced average vehicle wait time by 70-80% and CO₂ emissions by over 50% versus a static timing baseline across 500 training episodes
- Trained and evaluated the agent across configurable episode counts, logging per-episode rewards, learning curves, and performance metrics to CSV with auto-generated plots

Reinforcement Learning Agent for Balatro

July 2026

- Trained a two-stage reinforcement learning agent to play the game Balatro: first via behavior cloning of a hand-coded strategy, then via reward-based fine-tuning on live gameplay
- Achieved an approximate 75% win rate against the live game

ACTIVITIES

D1 Cross Country & Track and Field - University of Evansville

May 2023 - Present

- Competed at the Missouri Valley Conference (MVC) level while maintaining a 3.56 GPA alongside a full course load and part time job
- Represented Poland at the national level multiple times, finishing in the top 8 nationally

SKILLS, CERTIFICATIONS & AWARDS

Technical: Python (Flask, OpenCV, TensorFlow, PyTorch, MediaPipe, YOLO, Gymnasium/RL), JavaScript/TypeScript, C++, SQL, React, Next.js, HTML/CSS, PostgreSQL, NumPy, Pandas, Linux, Git, REST APIs, Reinforcement Learning, Computer Vision

Languages: Polish (Native), English (C2)

Certifications: AWS Certified Cloud Practitioner

Awards: Academic, International, Cross Country & Track and Field Scholarships | 5× Dean's List