

Donnie Winkelman

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TECHNOLOGIES

ML/Deep Learning: PyTorch, TensorFlow, HuggingFace, LangChain, W&B, RAGs, LLMs, ConvNets, Mamba
Data Science: NumPy, Pandas, Sklearn, Mechanistic Interpretability, Feature Visualization, Integrated Gradients
Languages: Python, TypeScript/JavaScript, SQL, C/C++, Java, C#, Swift
Web/Cloud: Linux, Docker, React, Next.js, Node.js, AWS, gRPC, Sockets, PostgreSQL, Tailwind, Svelte, Express.js
Methodologies: Agile/Scrum, CI/CD, Kanban, Research Design

EDUCATION

University of Massachusetts Amherst GPA: 3.9
M.S. Computer Science – Specialization in Data Science and Machine Learning Jan. 2025 – Dec. 2025
– Relevant Coursework: Distributed Systems, Data Science for Decarbonization, Natural Language Processing
University of Massachusetts Amherst GPA: 3.8
B.S. Computer Science Sep. 2022 – Dec. 2024

EXPERIENCE

MassAI | Website | Public Resources Amherst, MA
Co-President, Events and Marketing Coordinator Aug. 2024 – Present
– Pioneered [20+ club-led projects](#) while personally leading 2 teams, engaging 100+ students in hands-on development
– Led recruitment and onboarding of 18 events, marketing, project, web, and treasury coordinators to our E-board
– Implemented [umassai.com](#) with SvelteKit, Tailwind, and Google Calendar API integration, achieving 600+ MAU
– Founded and led weekly [research reading group](#), [hands-on ML workshops](#), [club collaborations](#), and [competitions](#)
– Developed automated pipelines for lecture recording and distribution, mailing list management, and record keeping
Secure, Private Internet (SPIN) Research Group | Poster | Github Amherst, MA
AI Safety Researcher Dec. 2024 – Feb. 2025
– Built and implemented NSFW content filtering system for text-to-video prompts using phi4 and Deepseek-R1
– Analyzed 432 prompts, finding temporal risk filter gap (93% accuracy on non-temporal vs 61% on temporal risks)
UMass Computer Science Department | Paper | GitHub Amherst, MA
Research Assistant Aug. 2024 – Dec. 2024
– Led study revealing VGG16 develops progressive feature complexity with distinct pattern recognition
– Co-authored research showing Mamba’s in-context learning improved accuracy by up to 40% on synthetic OCR
– Identified sentiment detection limitations using integrated gradients, revealing key factors in false classifications

PROJECTS

BeatCode.dev | SvelteKit, FastAPI, PostgreSQL, WebSockets | Demo | GitHub 2024
– Built competitive coding platform with 900+ registered users using JWT auth and WebSocket state management
– Implemented real-time code execution with test case evaluation, sabotage abilities, and ELO-based ranking
Self-Driving Car Vision | PyTorch, Computer Vision | Demo | GitHub 2024
– Trained ResNet model on 11,110-image dataset to predict vehicle positioning, increasing test accuracy by 1,300%
– Engineered data augmentation pipeline, reducing overfitting and resolving gradient instability issues
ClubberNaut | React, Next.js, Supabase | GitHub 2024
– Built full-stack platform with REST API endpoints to support UMass club community
– Led 7-person Agile team through implementation of authentication, club creation/discovery features
UMass CLog | React Native, Supabase, BeautifulSoup | Demo 2023
– Developed personalized healthcare app analyzing 200+ ingredients with 37 attributes to predict IBD trigger foods
– Implemented automated data extraction system and real-time symptom tracking

AWARDS & RECOGNITION

Best AI Hack, HackHer413 (2025) | [Demo](#) | [GitHub](#) – Find a seat at Worcester gym and agents for the MassAI RLympics
Best Healthcare Hack, HackUMass (2022) | [GitHub](#) – UMass SAFER meal ordering service, reduced processing time by 1,200% and added allergy-based filtering for users with food allergies; later integrated into [UMass Dining App 2.0](#)
Earned all 137 merit badges, Scouts BSA (2021) – Achieved by <500 scouts globally, Eagle, 600+ volunteer hours