

DANIEL KATHEIN

Fort Lauderdale, FL

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Education

Carnegie Mellon University, Pittsburgh, PA

B.S. in Artificial Intelligence, School of Computer Science

Expected Graduation: May 2026

GPA: 3.90/4.00

Pine Crest Preparatory School, Fort Lauderdale, FL

Designated top 1% of class in Computer Science & Math (Achievement Award)

SAT: 1570 | GPA: 5.09

Relevant Coursework: Imperative Computation, Data Structures and Algorithms, Functional Programming, Artificial Intelligence: Representation & Problem Solving, Computer Systems, Machine Learning, Introduction to Deep Learning, Neural Networks and Deep Learning (DeepLearning.AI), Hyperparameter Tuning, Regularization & Optimization (DeepLearning.AI)

Select Honors: Dean's List with High Honors, 1st Place – Software Development (Florida Technology Student Association)

Work Experience

Incoming Deep Learning Infrastructure Engineer Intern

NVIDIA

May 2025 – Aug 2025

Santa Clara, CA

Machine Learning Research Intern

CMU Language Technologies Institute, Li Lab

May 2024 – Sep 2024

Pittsburgh, PA

- Fine-tuned 3 base LLMs for code generation, using a self-align pipeline for autonomous data generation and learning.
- Pioneered a novel non-greedy tokenization technique, leveraging beam search to achieve lowest perplexity segmentations.
- Developed a 10,000-sample benchmark to rigorously evaluate LLMs on complex linguistic and string manipulation tasks.
- Achieved a notable 12% performance improvement when applied to the state-of-the-art Llama-3.1-Instruct model.

Lead Software Developer Intern

CMUCal, ScottyLabs

Sep 2023 – Present

Pittsburgh, PA

- Engineered CMUCal, a comprehensive academic platform automating the integration of essential student resources.
- Led the design of CMUCal's backend using Python, Node, and MongoDB, with front-end development in React.
- Integrated 15+ data sources via advanced web scraping and AI-driven crowd-sourcing, centralizing academic resources.
- Streamlined the seamless sync of office hours and tutoring into student calendars, reducing manual entry by 80%.

Full-Stack Software Engineer

Freelance

Feb 2020 – Aug 2022

Fort Lauderdale, FL

- Coded Python software to monitor e-commerce in real-time on 15+ retailer sites and alert product availability.
- Architected a robust multithreaded, proxy-supported web harvesting infrastructure using BeautifulSoup and Selenium.
- Facilitated \$400K+ in generated revenue for Amazon, Walmart, and other online sellers from 1500+ total users.

Projects

Multi-Camera Association with Transformers | *Python, OpenCV, Kornia, Pytorch, CUDA*

Apr 2023

- Conducted 325+ hours of research at the University of Florida under Dr. Henry Medeiros, designing a cutting-edge multi-camera tracking algorithm with Local Feature TRansformer; performed large experiments tuning 8 parameters.
- Contributed to the US Department of Homeland Security's CLASP initiative, aimed at enhancing airport safety.
- Presented at the 2022 International Forum on Research Excellence and 2023 Florida JSEHS Symposium competition, securing 4th place overall and the Regional Recognition Award among the top 6 speakers (research publication).
- Granted 1st place in Intelligent Machines, Robotics and Systems Software at the Broward Science and Engineering Fair.

Epileptic Seizure Prediction with Long Short-Term Memory | *Python, Keras, TensorFlow, Matplotlib*

June 2022

- Developed advanced RNN, LSTM, and GRU models for high-accuracy epileptic seizure detection from EEG data.
- Implemented SMOTE for data balancing and Keras Tuner for optimization, achieving a record 97.5% accuracy.

Community Involvement

Vice President

Computer Science Club (Pine Crest)

Aug 2020 – May 2023

Fort Lauderdale, FL

- Coordinated code-a-thons, workshops, and guest speaker events (e.g., Google) for 100+ club members.
- Led and coached highly competitive teams for 5+ major contests including ACSL, PClassic, and UCF HSPT.
- Awarded 1st place at the Winter Code-a-thon, emphasizing data structures and algorithms, among 20+ teams.

Technical Skills

Languages: Python, Java, C/C++, HTML, SML, LaTeX

Frameworks: Pytorch, Keras, Tensorflow, Scikit-learn, Pandas, NumPy, OpenCV, MongoDB, HuggingFace Transformers

Developer Tools: Linux, Git, Visual Studio Code, Google Cloud Platform, AWS

Focus Areas: Machine Learning, Software Development, Computer Vision, NLP, Large Language Models, Data Science