Nicholas Greiner

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Education

University of Florida Expected May 2027

B.S. in Computer Science, Minor in Mathematics | GPA: 3.85 *Gainesville, FL*

Relevant Coursework: Data Structures & Algorithms, Machine Learning, Database Systems, Software Engineering, Natural Language Processing

Technical Skills

Languages: Python, C++, SQL, C#, TypeScript, JavaScript
ML & Scientific Computing: PyTorch, scikit-learn, NumPy, pandas, Eigen, Gymnasium
Development: Git, React, Node.js, FastAPI, PostgreSQL, SQLite, Catch2, CTest, SLURM

Experience

Teaching Assistant, Programming Fundamentals 1 (Python) Sep. 2026 – Present

University of Florida *Gainesville, FL*

- Teach Python fundamentals through object-oriented programming, grade exams, and provide debugging and problem-solving support during online office hours.

Teaching Assistant & Exam Lead, Programming Fundamentals 2 (C++) Jan. 2026 – Present

University of Florida *Gainesville, FL*

- Lead weekly C++ discussion sections for 30+ students in a 300+ student course, using live coding to teach memory management, object-oriented programming, debugging, and algorithmic problem solving.
- Lead a team in developing multiple-choice and free-response exam questions for a 300+ student C++ course, personally authoring and reviewing assessments.

Undergraduate AI Research Assistant Aug. 2025 – Present

University of Florida *Gainesville, FL*

- Build a PyTorch computer-vision pipeline processing approximately 36,000 ImageNet-1K images through ResNet inference, attribution-map generation, and in-distribution vs. out-of-distribution classification and evaluation.
- Study vision-language-action model reliability using OpenVLA and $\pi 0.5$ on LIBERO robotic manipulation tasks; run 100+ GPU-hours of CUDA-accelerated experiments scheduled with SLURM.

Math Tutor May 2025 – May 2026

The Tutoring Company *Gainesville, FL*

- Provided individualized mathematics and SAT instruction to students ages 7–19, adapting practice materials to address conceptual gaps.

Technical Projects

Classical ML in C++ | *C++20, Eigen, Catch2* | GitHub Aug. 2026 – Present

- Implemented linear and logistic regression in C++20 with Eigen, reusable `fit`/`predict` interfaces, regression metrics, and binary-classification metrics including confusion matrices, precision, recall, and F1.
- Added 40 deterministic Catch2 tests covering numerical convergence, hand-calculated reference values, classification validation, and edge cases; integrated CTest with the Visual Studio solution.

PvZRL | *Python, C#, Gymnasium, Unity* | GitHub Jun. 2026 – Present

- Built a Gymnasium reinforcement-learning environment for Plants vs. Zombies with 841 masked actions, 4,364 observation features, and a C#–Python bridge for Unity game-state integration.
- Develop MaskablePPO training and behavior cloning from Twitch demonstrations; implemented checkpoint evaluation with structured episode logs that distinguish policy outcomes from infrastructure failures.

Gator++ | *TypeScript, React, Node.js* | *Team Project* May 2026 – Present

- Contribute to shared features, integration, and testing for a React/TypeScript gamified learning platform; implemented adaptive exam review based on lesson topics, student answers, and performance.
- Developed a clue-based debugging game where students investigate code and identify programming errors; the team conducted studies evaluating the platform.

FARS Occupant Injury Severity Classification | *Python, scikit-learn, pandas, NumPy* Jul. 2026

- Developed a machine-learning pipeline analyzing 75,000+ NHTSA FARS occupant records, investigating missing data, injury-severity distributions, and crash-level predictors.
- Trained and evaluated logistic regression, random forest, and gradient-boosted classifiers using hyperparameter tuning and validation-based model selection.

Additional Experience

Gas Attendant (promoted from Team Member) Jul. 2023 – May 2025

Sam's Club

Delivery Driver (promoted from Team Member) Aug. 2021 – Jun. 2023

Pizza Hut