Jay B. Nash

Contact Information

jnash1@conncoll.edu
github.com/jn202871
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Education

Connecticut College, New London, CT — August 2022 - May 2026
Bachelor of Arts in Computer Science and Physics — **GPA: 3.59/4.0**

Research Experience

Autonomous Agent Learning Lab — July 2023 - Present
Undergraduate Student Researcher, *Connecticut College*

- Advisors: Dr. Gary Parker & Jim O'Connor
- Developed the simulation environment underlying multiple studies on the simulation of evolution
- Led development of a novel framework for policy learning via derivative-free methods
- Maintained a distributed compute cluster to accelerate experiments across the research group

Publications

[1] ***Playing Atari Space Invaders with Sparse Cosine Optimized Policy Evolution***
Jim O'Connor, **Jay B. Nash**, Derin Gezgin, Gary B. Parker
In review for AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2025

[2] ***Integer Population Compression for Resource-Constrained Evolution***
Gary B. Parker, **Jay B. Nash**, Jim O'Connor
In review for IJCCI Conference on Evolutionary Computation and Theory and Applications, 2025

[3] ***SCOPE for Hexapod Gait Generation***
Jim O'Connor, **Jay B. Nash**, Derin Gezgin, Gary B. Parker
Pending publication in IJCCI Conference on Evolutionary Computation and Theory and Applications, 2025

[4] ***Simulating Evolutionary Dynamics in a Simple Environment***
Jay B. Nash, Gary B. Parker, Jim O'Connor
Pending publication in Studies in Computational Intelligence

[5] ***The Evolution of Complex Attributes in a Species of Simulated Agents***
Jay B. Nash, Gary B. Parker, Jim O'Connor
IEEE Symposium on Computational Intelligence in Artificial Life and Cooperative Intelligent Systems Companion, 2025

[6] ***Using Secondary Inherited Characteristics During Reproductive Choice to Replicate Allopatric Speciation***
Gary B. Parker, **Jay B. Nash**
Proceedings of the 16th International Joint Conference on Computational Intelligence, 2024

Talks & Presentations

Sparse Cosine Optimized Policy Evolution

- Oral presentation at the colloquium of the Connecticut College Summer Science Research Institute

The Evolution of Complex Attributes in a Species of Simulated Agents

- Oral presentation at the IEEE Symposium on Computational Intelligence in Artificial Life and Cooperative Intelligent Systems

Using Secondary Inherited Characteristics During Reproductive Choice to Replicate Allopatric Speciation

- Oral presentation at the 16th International Joint Conference on Computational Intelligence

Methods of Simulating Evolution and Speciation

- Oral presentation at the colloquium of the Connecticut College Summer Science Research Institute

Honors & Awards

Summer Science Research Institute Summer 2023 & Summer 2024 & Summer 2025
Awarded $4,000 (2023), $4,000 (2024) and $4,500 (2025) for summer research at Connecticut College

Junior Computer Science Award Spring 2025
For excellence in Computer Science and distinction in research for majors in the third year.

Sophomore Computer Science Award Spring 2024
For excellence in Computer Science and distinction in research for majors in the second year.

Presidential Scholar Spring 2023
One of a small group of freshman selected for academic achievement in their first semester to participate in a series of talks and events hosted by Connecticut College faculty.

Dean's High Honors Fall 2022 & Spring 2023
Awarded for maintaining a GPA above 3.88 during a given semester.

Teaching Experience

Teaching & Grading Assistant Fall 2023 - Present
Connecticut College, New London, CT

COM212: Data Structures	Fall 2023 - Present
COM410: Computational Intelligence	Fall 2025 - Present
PHY107: General Physics I	Fall 2024 - Present
PHY108: General Physics II	Spring 2025 - Present

Departmental Service

Computer Science Department Student Advisory Board August 2025 - May 2026
Chair

Connecticut College Planning Priorities and Budget Committee August 2024 - May 2026
Student Representative

Student Government Association Finance Committee August 2023 - May 2024
Student Representative

Work Experience

Student Network Administrator September 2023 - Present
Information Systems, *Connecticut College*

- L3 technology support team addressing network connectivity and security issues
- Stood up and led a student-run security operations center to augment professional staff

IT Service Desk Technician May 2023 - January 2024
Information Systems, *Connecticut College*

- Diagnosed software and hardware issues, addressing issues where possible
- Acted as the point person for customer service for both call-in and walk-in customers

Skills

Programming Languages: Python, Java, Mathematica, MATLAB, LaTeX, Scheme
Libraries: PyTorch, TensorFlow, Scikit-learn, NumPy, Jax, Numba, Ray, Pandas, MatplotLib, Pgx
Languages: English (Native)

Coursework

Entertainment Software Design	Data Structures	Computer Organization
Linear Algebra	Algorithms	Artificial Intelligence
Differential Equations	Computational Intelligence	General Physics
Statistical Mechanics	Classical Mechanics	Modern Physics
Multivariable Calculus	Discrete Mathematics	Thermodynamics