

EDUCATION

Connecticut College, New London, Connecticut, USA
Bachelor of Arts in Computer Science and in Statistics and Data Science

August 2023 – May 2027
GPA: 4.0/4.0

RESEARCH EXPERIENCE

Neurobotics Lab

Advisor: Prof. Nick Cheney

March 2026 – Present

University of Vermont

- Developed AURORA-VC, using variance-covariance regularization to reduce representation collapse in quality-diversity search
- Exploring how patterns of human innovation can guide recursive self-improvement in learning systems

Autonomous Agent Learning Lab

Advisors: Prof. Gary B. Parker & Prof. Jim O'Connor

July 2024 – Present

Connecticut College

- Created the Dark Souls Learning Environment, a reinforcement learning environment for Dark Souls boss encounters
- Co-developed Sparse Cosine-Optimized Policy Evolution, a DCT-based evolutionary policy for game playing and robotics
- Co-created and maintained an HTCondor compute cluster for the research group

ASSET Center & Software Engineering Group

Advisors: Prof. Mayur Naik & Prof. Saikat Dutta

May 2025 – March 2026

University of Pennsylvania & Cornell University

- Developed PoC-GYM, an agentic pipeline with validation mechanisms for proof-of-concept generation
- Led the Docker integration for IRIS, containerizing the project workflow, publishing prebuilt images for 189 Java projects

Informatics Lab

Advisor: Prof. Timothy James Becker

May 2024 – August 2025

Connecticut College

- Co-developed a river-connectivity classification pipeline combining temporal image enhancement and vision transformers

PUBLICATIONS

[10] Diagnosing and Repairing Representation Bottlenecks in Learned-Descriptor Quality-Diversity

Derin Gezgin

Advisors: Gary B. Parker & Nick Cheney

Honors Thesis, expected completion: May 2027

[9] Geometric Regularization of Learned Behavior Spaces in Unsupervised Quality-Diversity Optimization

Derin Gezgin, Nick Cheney

Under review

[8] Measuring Reproductive Isolation in a Constructed Ecological Ring-Species Pattern

Jim O'Connor[†], **Derin Gezgin**[†], Aaron Bolcereck, Gary B. Parker

Under review

[7] DSLE: A Learning Environment for Dark Souls Boss Encounters

arXiv **Derin Gezgin**[†], Jim O'Connor[†], Tanner Goodwin, Gary B. Parker

2608.09902 *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2026 [Oral, 20% Acceptance Rate]*

[6] POC-GYM: Towards More Reliable LLM-Assisted Proof-of-Concept Exploit Generation

arXiv **Derin Gezgin**, Amartya Das, Shinhae Kim, Zhengdong Huang, Nevena Stojkovic, Claire Wang

2602.04165 *Second Workshop on Large Language Models For Generative Software Engineering, 2026*

[5] Evolutionary Optimization of Deep Learning Agents for Sparrow Mahjong

arXiv Jim O'Connor, **Derin Gezgin**, Gary B. Parker

2508.07522 *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2025*

[4] Playing Atari Space Invaders with Sparse Cosine Optimized Policy Evolution

arXiv Jim O'Connor, Jay B. Nash, **Derin Gezgin**, Gary B. Parker

2508.08526 *AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment, 2025*

[3] A framework for river connectivity classification using temporal image processing and attention based neural networks

arXiv Timothy James Becker, **Derin Gezgin**, Jun Yi He Wu, Mary Becker

2502.00474 *ACM Conference on Computing and Sustainable Societies, 2025*

[2] SCOPE for Hexapod Gait Generation

arXiv Jim O'Connor, Jay B. Nash, **Derin Gezgin**, Gary B. Parker

2507.13539 *IJCCI Conference on Evolutionary Computation and Theory and Applications, 2025*

[1] Evolving Neural Controllers for Xpilot-AI Racing Using NEAT

arXiv Jim O'Connor, Nicholas Lorentzen, Gary B. Parker, **Derin Gezgin**

2507.13549 *IJCCI Conference on Evolutionary Computation and Theory and Applications, 2025*

TEACHING EXPERIENCE

Undergraduate Teaching Assistant

Connecticut College, New London, Connecticut, USA

Spring 2024 – Present

F: Fall Semester & S: Spring Semester & U: Summer Session

COM110	Introduction to Computer Science & Problem Solving	S24, F24, S25, U25, F25, S26
COM212	Data Structures	F24, S25, F25, S26
COM219	Computer Organization	F25
COM304	Algorithms	F26
COM316	Artificial Intelligence	F26
COM322	Computer Vision	S26
STA107	Introduction to Statistics	S26
STA207	Advanced Regression Techniques	F25, F26

Serving as the **Head Teaching Assistant** for the Department of Computer Science throughout the 2026–2027 academic year, coordinating a team of **25** Teaching Assistants and developing the department’s **five-figure** TA staffing budget proposal

Served as the Introduction to Computer Science & Problem Solving TA Manager during the 2025–2026 academic year to coordinate the Introduction to Computer Science teaching assistants, session scheduling, and grading

Accumulated over **700** hours of service, supporting more than **250** unique students

HONORS & AWARDS

ACM Student Travel Grant

July 2025

Awarded CA\$750 as a Student Travel Grant to attend ACM Conference on Computing and Sustainable Societies

Summer Science Research Institute

Summer 2024 & Summer 2025

Awarded \$4,000 (2024) and \$4,500 (2025) for summer research at Connecticut College

Dean’s High Honors

Every Semester

Awarded for maintaining a GPA above a threshold determined by the academic performance of the past four graduating classes

Sophomore & Junior Computer Science Awards

2024-2025 & 2025-2026

For excellence in Computer Science

Sophomore & Junior Julia Wells Bower Prizes

2024-2025 & 2025-2026

For distinction in mathematics, offered by an anonymous donor in honor of Julia Wells Bower, Professor Emeritus of Mathematics

SERVICE AND ACADEMIC CONTRIBUTIONS

IEEE Symposium on Computational Intelligence in Artificial Life and Cooperative Intelligent Systems October 2026
Reviewer

Mathematical Statistics with Resampling and R, 4th Edition

Spring 2026

Acknowledged Contributor; submitted errata, and pedagogical feedback on undergraduate usability for the forthcoming edition

ACM Conference on Computing and Sustainable Societies

July 2025

Student Volunteer

Connecticut College Computer Science Student Advisory Board

August 2024 – May 2025

Diversity Chair

TALKS & PRESENTATIONS

PoC-GYM: Towards More Reliable LLM-Assisted Proof-of-Concept Exploit Generation

- Oral presentation at the Second Workshop on Large Language Models For Generative Software Engineering

Machine Learning Image-Based In-Stream Water Flow Classification

- Poster presentation at Northeast Aquatic Biologists Conference and Connecticut College’s 2024 Fall Weekend
- Oral presentation at the colloquium of Connecticut College Summer Science Research Institute and ACM COMPASS 2025

Evolutionary Optimization of Deep Learning Agents for Sparrow Mahjong

- Oral presentation at Computer Science Department Research Seminar at Connecticut College
- Poster presentation at AAAI AIIDE 2025

Sparse Cosine Optimized Policy Evolution

- Oral presentation at the colloquium of the Connecticut College Summer Science Research Institute and IJCCI-ECTA 2025
- Poster presentation at Connecticut College’s 2025 Fall Weekend and AAAI AIIDE 2025

SKILLS

Languages: English (Fluent) & French (Fluent) & Turkish (Native)

Programming Languages: Python, Java, R, MATLAB, L^AT_EX, Chez Scheme

Libraries: PyTorch, TensorFlow, scikit-learn, NumPy, JAX, Pandas, QDax, Numba