Derin Gezgin

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EDUCATION

CONNECTICUT COLLEGE, New London, CT — ***Bachelor of Arts expected:*** *May 2027*

- **Double Major:** Computer Science & Statistics and Data Science — ***Overall GPA:*** *4.00/4.00*
- **Courses:** Artificial Intelligence, Computer Vision, Advanced Regression Techniques, Discrete Mathematics, Data Structures, Computer Organization, Statistical Computing with R, Web Technologies & Development
- **Honors:** Fall 2023, Spring 2024, Fall 2024, Dean's High Honors
- **Leadership:** Diversity Chair, *Computer Science Student Advisory Board*

SKILLS SUMMARY

Programming Languages: Python, Java, C++, Scheme, R, MATLAB, HTML, CSS, JavaScript
Libraries: PyTorch, OpenCV, TensorFlow, scikit-learn, Selenium, NumPy, Matplotlib, Pandas, JAX, Pgx
Technical Skills and Interests: Git, GitHub, Machine Learning, Artificial Intelligence, Computer Vision, Game AI, Swarm Robotics
Languages: Native Turkish, Fluent English, Fluent French

RELATED EXPERIENCE

Autonomous Agent Learning Lab, Connecticut College — *July 2024 – Present*

Undergraduate Researcher (Python, Pgx, JAX, Game AI, Evolutionary Computation, Swarm Robotics)

- Work with Prof. Gary Parker and Jim O'Connor on a Game AI project to develop an agent for the *sparrow mahjong* game
- Utilize evolutionary computation, genetic algorithms, Long-Short Term Memory Networks, Covariance Matrix Adaptation
- Achieved convergence for an agent that can win 30% more games and score higher than the base-line agent
- The research paper is currently under review for IEEE-COG 2025
- Work on a swarm robotics project that utilizes Evolutionary Computation, Particle Swarm Optimization, and Recurrent Neural Networks

Informatics Lab, Connecticut College — *May 2024 – February 2025*

Undergraduate Researcher (Python, OpenCV, PyTorch, TensorFlow, Keras, Computer Vision)

- Collaborate with Prof. Tim Becker on a summer-long and continuing computer science and environmental science research project
- Utilize PyTorch and Keras to create a vision transformer model that can classify any water stream by continuity of the flow
- Achieved over 85% 2-categorical accuracy in unseen data on a dataset containing 800+ GBs of water-stream images
- Got accepted into the Northeast Aquatic Biologists Conference poster session
- The research paper on this project is currently in review for ACM COMPASS 2025

Computer Science Department, Connecticut College — *January 2024 – Present*

Teaching Assistant and Grader (Python, Java)

- Work as a teaching assistant and grader for the following courses: *Introduction to Computer Science, Data Structures*
- Conduct weekly tutoring sessions to help students with programming and written assignments
- Support professor in various lab sections and in weekly private 1-1 sessions. Grade student work

RELATED PROJECTS

OpenCV Sudoku Solver (Python, OpenCV, TensorFlow), Connecticut College — *January 2024*

- Developed a Sudoku solver using OpenCV that goes beyond traditional solvers by allowing users to input any Sudoku board photo
- Implemented features like contour detection, perspective transform, digit recognition, etc., to extract and solve the sudoku board
- Created a user-friendly interactable UI to allow users to manually mark the corners on the board and fix the detected numbers
- Explored the applications of digit recognition using TensorFlow to read and solve the Sudoku board photo

Visualization of Different Time-Series Data in the COVID-19 Pandemic (Python), Connecticut College — *November 2023*

- Developed an analyzation pipeline using matplotlib, scipy, and plotly for stock & crypto asset prices and COVID-19 case data
- Implemented a robust data processing pipeline using Pandas and created flexible and reusable functions
- Engineered visualizations with matplotlib, identifying and highlighting peaks with scipy.signal, and showing the spread of COVID-19

Automated Transportation Information Scraper (Python), Izmir, Turkey — *July 2023*

- Developed a Selenium-based web scraping project to extract real-time departure and arrival times from the Izmir Subway website
- Coded the program to ask for departure and arrival stations and scrape the relevant departure and arrival times from the website

INTERESTS

Advanced Trumpet • Advanced Piano • Jazz