OWEN MARTIN

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EDUCATION

Ph.D Candidate in Computer Science, University of Colorado Boulder — August 2020 - Ongoing
Research assistant to Dr. Orit Peleg

M.S. in Computer Science, University of Colorado Boulder — August 2020 - December 2023
Area of Concentration: Complex Systems
GPA: 3.96

B.S. in Computer Science, Tufts University — August 2013 - May 2017
GPA: 3.24

TEACHING EXPERIENCE

Graduate Teaching Assistant — August 2020 - January 2023
University of Colorado Boulder
Courses taught: Data Structures (x3), Senior Capstone Project, Dynamic Models in Biology, Jungle to the Sea in Ecuador

Undergraduate Teaching Assistant — January 2015 - May 2017
Tufts University
Courses taught: Data Structures (x4)

TECHNICAL SKILLS

Programming Languages	Python, C++, R, Javascript, C, Matlab, Processing, NetLogo
Frameworks	PyTorch, Keras, pandas, numpy, React, Node, scikit-learn, Hadoop, Spark, dyplr
Tools	Git, Docker, Azure, AzureML, Kubernetes, GCP, slurm

PUBLICATIONS

Embracing firefly flash pattern variability with data-driven species classification — a. February 2024
O. Martin*, C. Nguyen, R. Sarfati, M. Chowdhury, M. Iuzzolino, D.M.T. Nguyen, R. Layer, O. Peleg*
Scientific Reports. https://www.biorxiv.org/content/10.1101/2023.03.08.531653v2

Crowdsourced dataset of firefly trajectories obtained by automated stereo calibration of 360-degree cameras — s. March 2023
R. Sarfati, ***O. Martin****, J.C. Hayes, A.C.S. Owens, P. Shaw, C. Mollohan, R.L. Day, P. C. Mauney, R.V. Joyce, J.Davis, P. Butler, R. Schreiber, B. Auman, and O. Peleg.*
Scientific Data. https://zenodo.org/records/7855600

Emergent periodicity in the collective synchronous flashes of fireflies — s. March 2022, a. March 2023
R. Sarfati, K. Joshi, ***O. Martin****, S. Iyer-Biswas, O. Peleg.*
eLife. https://doi.org/10.7554/eLife.78908

PRESENTATIONS

Embracing behavioral variability for data-driven classification of firefly flash patterns — October 2023
O. Martin*, C. Nguyen, R. Sarfati, D.M.T. Nguyen, M. Iuzzolino, M. Chowdhury, R. Layer, O. Peleg.*
GEOBON Monitoring Biodiversity for Action, Montreal, CA.
https://event.fourwaves.com/geobon-2023/schedule/470afc8e-cd0b-45a0-b93c-ec7467171fac

Exploring open- and closed-loop communication between fireflies and LEDs — March 2023
O. Martin*, N. Nechyporenko, S. Katiyar, W. McDonnell, K. Jayaram, O. Peleg.*
American Physical Society March Meeting, Las Vegas, NV, USA.
https://meetings.aps.org/Meeting/MAR23/Session/S14.4

A pipeline for automatic classification of firefly species from flash patterns Sept 2022
O. Martin
University of Colorado Biofrontiers QED Supergroup, Boulder, CO, USA.

Exploring Synchronization in Firefly-LED systems April 2022
O. Martin
Aspen Center for Physics Dynamics of Living Systems Conference, Aspen, CO, USA.

Synchronization Dynamics of Firefly-LED systems. March 2022
O. Martin*, R. Sarfati, J. Hayes, O. Peleg.*
American Physical Society March Meeting, Minneapolis, MN, USA.
https://ui.adsabs.harvard.edu/abs/2022APS..MARM03009M/abstract

Visual communication of synchronous firefly swarms in natural and virtual realities August 2021
O. Martin*, R. Sarfati, J. Hayes, O. Peleg*
ESI Systems Neuroscience Conference, Frankfurt, DE.
https://www.esi-frankfurt.de/pdf/esisync/esisync_2021_datablitz_abstracts.pdf

AWARDS

1st Place, Best Student Talk October 2023
GeoBON Monitoring Biodiversity for Action, Montreal CA

Outstanding Teaching Assistant May 2022
University of Colorado Boulder CS Department

Microsoft PhD Fellowship Nominee May 2022
University of Colorado Boulder CS Department

Apple AIML PhD Fellowship Nominee October 2021
University of Colorado Boulder CS Department

Best DataBlitz Presentation August 2021
ESI Systems Neuroscience Conference

Computer Science Department Professional Development Award May 2021
University of Colorado Boulder

LEADERSHIP

Graduate Student Mentorship January 2023 - present

Kumpeerakij Chanin, graduate student rotation in firefly synchronization modeling

Bowman Russell, undergraduate student studying Colorado Front Range firefly populations

Anurag Ranjan, undergraduate student studying firefly synchronization dynamics by simulating different flash counts

Colorado Firefly Project Science Liaison May 2023 - July 2023
City of Boulder Open Space and Mountain Parks, City of Fort Collins Natural Areas

Computer Science Graduate Student Association Graduate Committee Liaison August 2021 - May 2022
University of Colorado Boulder

Outside Science, Inside Parks April 2022
National Park Service
Artificial light stimulation of P. frontalis fireflies in the wild

Congaree National Park Firefly Education June 2021
National Park Service

INDUSTRY EXPERIENCE

Software Engineer in Test NetApp Solidfire December 2018 - May 2020