# Owen Martin

Ph.D Student

ⓘ University of Colorado Boulder

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About me ——————

I study collective behavior and swarm dynamics of social insects in the Peleg lab at CU Boulder. I am an interdisciplinary computer science Ph.D student with a diverse set of skills and interests and a professional background in software engineering and quality. Currently, I am developing and programming mathematical models for synchronized $P.carolinus$ and $P.frontalis$ fireflies.

Skills ——————

Python

Data Science

Agent-Based Modeling

Matlab

C++

git

Processing

Mathematical modeling
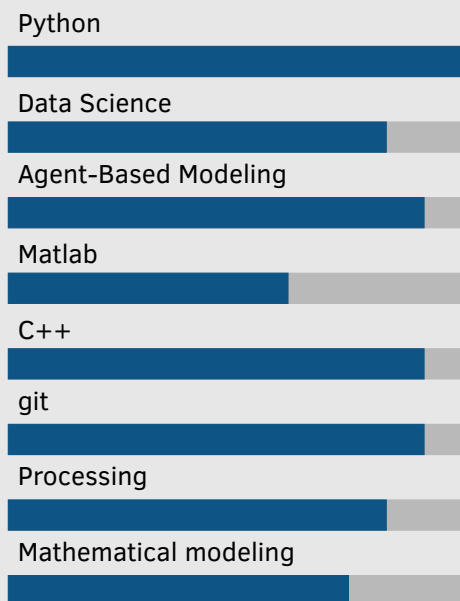
Interests

Intellectually and professionally I am interested in collective behavior, complex networks, dynamics on networks, network inference, intelligence, and autonomous swarm systems. I spend my free time climbing, painting birds that I watch in the wild, backpacking, cooking, and writing.

Education

2020-	Ph.D. student	University of Colorado Boulder
	Computer Science, Physics of Living Systems	
2013-2017	B.Sc.	Tufts University
	Computer Science	

Research

Ongoing	Synchronized Collective Behavior of North American Fireflies	Peleg lab, CU Boulder
	Dynamical modeling of flash synchronicity on complex network topologies formed by swarming fireflies	
2020	Disease Prevention Measures within Heterogeneous Communities	NetCOVID, COMBINE Institute, University of Maryland
	Contributed an agent-based SIR epidemic model of social distancing effectiveness in heterogeneous communities	
2019	Data-Driven Modeling of Bee Trophallaxis	Peleg lab, CU Boulder
	Contributed an agent-based model simulating $A.\ mellifera$ movement and trophallaxis information/food exchange	
2016	Techfugees	Tufts Institute for Global Leadership
	Developed web app for international refugees in Lesvos, Greece and studied effectiveness of hackathons for social good	

Work Experience

2020-2021	Teaching Assistant	University of Colorado Boulder
	Tutored students in asymptotic complexity, data structures concepts and applications, and programming fundamentals in C++; taught a recitation section and hosted one-on-one office hours and grading sessions for projects. Also graded for Biological Networks fully in a Jupyter notebook environment	
2018-2020	Software Engineer in Test	NetApp Solidfire
	Designed and implemented test automation framework for the performance team. Designed and developed feature test frameworks. Wrote dev-ops tools to facilitate company-wide test development across a variety of features.	
2017-2018	Software Quality Engineer	Hitachi Vantara
	Improved quality best practices through design and implementation of in-house test tracking software; streamlined test processes via script-writing and automating deployment of test environments.	

Relevant Coursework

Graduate	Coursework in Computer Science	CU Boulder
	Network Analysis and Modeling, Data Mining, Chaotic Dynamics, Bio-Inspired Multi-Agent Systems	
Undergrad	Coursework in Computer Science	Tufts University
	Data Structures, Discrete Math, Programming Languages, Machine Structure and Assembly Language Programming, Web Programming, Computational Biology, Computational Theory, Computing for Developing Regions, Artificial Intelligence	
Undergrad	Coursework in Computer Science	Aquincum Institute of Technology
	Structure and Function of Complex Networks, Data Science, Algorithms, User Experience Design	