Owen Lynch

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EDUCATION

Utrecht University

M.Sc Probability and Statistics   Expected May 2022

Awards: Utrecht Excellence Scholarship
Relevant Coursework: Measure Theoretic Probability, Interacting Particle Systems, Orientation on Mathematical Research (Research Topic: Metastability Through Random Walks)

Budapest Semesters in Mathematics

Semester Abroad   Spring 2019

Awards: Legmagasabb Kitüntetéssel (highest honors)
Relevant Coursework: Combinatorics, Conjecture and Proof, Discrete and Convex Geometry, Differential Geometry

Brown University

B.Sc Mathematics with Honors,
Magna Cum Laude   Graduated: May 2020

Relevant Coursework: Recent Applications of Probability and Statistics (Graduate), Topology 1+2 (Graduate), Algebra 1+2 (Graduate), Algebraic Geometry 1 (Graduate), Algorithms, Functions of Several Variables 1+2

EXPERIENCE

Tesla Motors

Firmware Intern   May-August 2018

Developed interface to query data about the network of the car. Common use case lead to a desire to automate failure analysis using this tool, so designed an algorithm to investigate redundancy in communication buses. All coding done in Haskell.

Wyzant

Mathematics and Programming Tutor   June 2020-

Uses mathematical communication skills to help students with homework, and to come up with novel curricula in response to student demand. Takes initiative to mend holes in students' backgrounds.

New England Complex Systems Institute

Student Researcher   Summers 2016,2017,2019

Researched and implemented novel techniques in image processing. Wrote large-scale data scraping infrastructure. Helped to migrate large amounts of data. Studied novel information theoretic methods for modeling changes in complex systems. Worked in Python, R, and C.

Brown University

Math Resource Center Tutor   Spring 2017

Algorithms TA   Fall 2018

Information Theory Grader   Fall 2018

Probability Grader   Fall 2019

Topics in Abstract Algebra TA   Spring 2020

Graded homework and supported students through TA hours.

PROJECTS AND WRITINGS

Catlab.jl

Implemented "Attributed C-sets", a data structure that generalizes common data structures in scientific computing and code-generates basic operations on those data structure. Github link

The Inherent Instability of Disordered Systems

Researched a theory of order and stability using entropy, with applications to biology and politics. arxiv.org/abs/1812.00450

HackMIT 2017

With a team of 4, won "Best Startup Potential" for a traffic-routing algorithm, which sent us to Vegas. Also won "Best Moonshot", and "Best Use of Location Data".
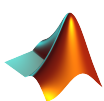
Open Systems for the Working Mathematician

Undergraduate thesis written under the supervision of Yuri Sulyma, provides a review of current applied category techniques for working with open systems. On Brown math website

Personal Blog

Writings on miscellaneous topics, updated semi-regularly. owenlynch.org

Selected Github Projects

IGE, a keyboard-driven graph editor written in Haskell
EZ Petri, a Petri net tool in Rust compiled to WASM
Very Large Trees, L-systems in Minecraft, Screenshot

TECHNOLOGIES

Julia   Haskell   Rust   C/C++   Python   R   Matlab   Nix   Linux   Git