

Craig Fouts

CRAIGFOUTS.COM
LINKEDIN.COM/IN/CRAIGWFOUTS
GITHUB.COM/CRAIGFOUTS

I'm an enthusiastic **scientist/engineer** interested in building data-driven mechanistic models of living systems and exploring emergent topology in host-microbiome network interactions.

EDUCATION

Imperial College London PhD Computational Systems Biology	2025 – 2029	Columbia University MSc Applied Mathematics	2022 – 2023
The Ohio State University BSc Computer Science & Engineering	2018 – 2022	The Ohio State University BSc Mathematics (double major)	2018 – 2022

EXPERIENCE

Uppsala University Vicković Group, Science for Life Laboratory Computational Research Engineer	Oct 2024 – Sep 2025
Developed a nonparametric neural topic model called ATLAS that elucidates anatomical structures and pathological motifs in single-cell datasets based on expression profile and spatial distribution.	
New York Genome Center Technology Innovation Laboratory Associate Computational Biologist II Graduate Research Assistant	Jan 2024 – Sep 2024 Sep 2022 – Jan 2023
Developed a probabilistic dimension reduction framework called sceLDA that clusters anatomical structures in histological spinal cord datasets based on cell composition and spatial distribution.	
The Ohio State University Translational Data Analytics Institute Undergraduate Research Assistant	Aug 2021 – Sep 2022
Developed a computational pipeline for aggregating and analyzing multimodal data collected from environmental sensors used to characterize the effects of aircraft engines in urban neighborhoods.	

ACCOLADES

Honors

The Ohio State University: Magna Cum Laude Honors Research Distinction	2022
Granville High School: Cum Laude Society National Honor Society Sociedad Honoraria Hispánica	2017
Scouting America: Eagle Scout	2016

Competitions

HackOHIO Hackathon: 1st Place Grand Prize Microsoft Challenge Winner People's Choice Award	2021
Ohio State FEH Honors Robotics Competition: 2nd Place Outstanding Achievement in Innovation	2019
OMEA Solo & Ensemble: Rank 1 Class A Violin Solo Performance	2016 & 2017

COURSEWORK

Columbia University

Applied Statistics III (A), Machine Learning for Functional Genomics (A), Advanced Linear Algebra (A+) **2023**
Numerical Algebra & Optimization (A), Partial Differential Equations (A-) **2022**

The Ohio State University

Discrete Mathematical Models (A), Quantitative Neuroscience (A), Computer Networking (A) **2022**
Mathematical Statistics II (A), Advanced Artificial Intelligence (A), Programming Languages (A) **2021**
Data Structures & Algorithms (A), Experimental Physics (A), Intermediate Mechanics (A-) **2020**
Ordinary Differential Equations (A), Honors Physics Electricity & Magnetism (A) **2019**
Honors Real Analysis (A), Honors Psychology (A) **2018**

PUBLICATIONS

Growing Steerable Neural Cellular Automata

Ettore Randazzo, Alexander Mordvintsev, & **Craig Fouts** (24 – 28 July 2023). *Growing Steerable Neural Cellular Automata*. Proceedings of ALIFE 2023 (pp. 4 – 10). https://doi.org/10.1162/isal_a_00564

Growing Isotropic Neural Cellular Automata

Alexander Mordvintsev, Ettore Randazzo, & **Craig Fouts** (18 – 22 July 2022). *Growing Isotropic Neural Cellular Automata*. Proceedings of ALIFE 2022 (pp. 65 – 72). https://doi.org/10.1162/isal_a_00552