

Craig Fouts

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I'm an enthusiastic **scientist/engineer** interested in building data-driven mechanistic models of living systems and exploring the dynamics of emergent behavior in host-microbiome 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	Jan 2024 – Sep 2024
Graduate Research Assistant	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.	

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

HackOHI/O 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