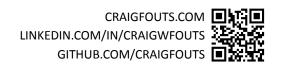
Craig Fouts, MSc



EDUCATION

Columbia University, MSc

Applied Mathematics 2022 – 2023

Completed a **graduate research internship** in the Tech Innovation Lab at the New York Genome Center.

PI: Sanja Vicković & Bianca Dumitrascu

The Ohio State University, BSc

Computer Science & Mathematics 2018 – 2022

Received **honors research distinction** for research and publication completed with Google Research.

PI: Tanya Berger-Wolf

EXPERIENCE

Uppsala University – Department of Immunology, Genetics, and Pathology

Machine Learning Engineer

Oct 2024 - Present

Developing mathematical models and statistical machine learning tools to facilitate genomics research using single-cell and spatial transcriptomics data.

Proficiencies: Python (PyTorch, Pyro, Scikit-Learn), statistical modeling, probabilistic machine learning

New York Genome Center – Technology Innovation Laboratory

Associate Computational Biologist II

Feb 2024 - Sep 2024

Graduate Student Research Intern

Sep 2022 - Dec 2023

Developed a probabilistic clustering model for elucidating cell state mixtures associated with degenerative neuromuscular diseases using single-cell spinal data.

Proficiencies: Python (PyTorch, Pyro, Scikit-Learn), statistical modeling, probabilistic machine learning

The Ohio State University – Translational Data Analytics Institute

Student Research Assistant

Aug 2021 – Sep 2022

Developed a computational pipeline for performing aggregation and time-series analysis of multimodal data collected to study the effects of combustion engines on urban environments.

Proficiencies: Python (PyTorch, Scikit-Learn, Scipy), time series alignment & analysis

The Ohio State University – Driving Simulation Laboratory

Laboratory Researcher

Aug 2020 - Sep 2022

Proctored simulated driving psychology experiments and developed a graphical software platform for interfacing with our proprietary data analysis and networking systems.

Proficiencies: Python (PyQt, QTrio, Socket), experimental research, graphical software development

The Ohio State University – Center for Design and Manufacturing Excellence

Student Research Assistant

Nov 2018 - Aug 2019

Developed a graphical software platform for interfacing with a Universal Robots UR10e industrial arm used to automate surveys of radioactive sources in a controlled environment.

Proficiencies: Python (RoboDK, Tkinter), graphical software development, robotics automation

PUBLICATIONS

Hudson: An Ecosystem for High-Throughput Optical Mapping using Decommissioned Sequencers*

*manuscript in preparation Nature Methods TBD

Growing Steerable Neural Cellular Automata

Ettore Randazzo, Alexander Mordvintsev, **Craig Fouts**Artificial Life Conference 2023

Growing Isotropic Neural Cellular Automata

Alexander Mordvintsev, Ettore Randazzo, **Craig Fouts**Artificial Life Conference 2022

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
Boy Scouts of 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

Scholarships

Battelle Memorial Institute Full Tuition Award, Honors Engineering Research Award, Ohio State Maximus Award, Ohio State Mankoff Engineering Award, Raymond H. and Beryl Dean Penick Memorial Award

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