

MATTHEW J. KUKLA

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EDUCATION

University of Maryland

Mathematics, BSc.

May 2022

College Park, MD, USA

PROFESSIONAL EXPERIENCE

BlueHalo

Research Engineer

June 2022 - present

- Researcher in formal logic, graph theory. Focused on applications to natural language processing, inference, time series analysis.

The Math Citadel

Researcher

March 2019 - present

- Conducted original research in fuzzy algebra, network theory, information geometry
- Developed numerous software packages
- Contributed to technical articles
- Rebuilt website for improved performance and security

Patton Electronics

Software Engineering Intern

Summer 2016

Gaithersburg, MD, USA

- Developed a Linux-based operating system for VDSL router prototype
 - Wrote and patched hardware-specific kernel modules
 - Organized and documented existing codebase

SKILLS

Languages

C, OCaml, Python, Java, MATLAB, Fortran, Prolog, shell scripting

Operating Systems

Linux, UNIX (BSD and Solaris), MS-DOS, Microsoft Windows

Tools

L^AT_EX, Git, NEC2, SQL, GNU Radio

Web

HTML, CSS, Apache, Gopher

RESEARCH AND PUBLICATIONS

Logical Limit Laws for Layered Permutations and Related Structures

Authors: Samuel Braufeld, Matthew Kukla (2021)

Published, Enumerative Combinatorics and Applications.

Colored Convex Linear Orders and Logical Limit Laws

Authors: Matthew Kukla (2021)

Preprint.

Rings of Typed Ordered Fuzzy Numbers

Authors: Matthew Kukla, Rachel Traylor (2020)

Preprint, arXiv:2010.07764.

TALKS AND PRESENTATIONS

Logical Limit Laws for Layered Permutations and Related Structures

University of Maryland Logic Seminar (2022)

Categorical Mirror Symmetry of Elliptic Curves (two lecture series)

University of Maryland Geometry and Physics Seminar (2018)

Generalized Calabi-Yau Manifolds

University of Maryland Geometry and Physics Seminar (2018)

CONFERENCES

University of Maryland Geometry Festival

University of Maryland (May 2019)

Witt Vectors, Deformations, and Absolute Geometry

University of Vermont (June 2018)