

MATTHEW J. KUKLA

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EDUCATION

University of Maryland

Mathematics, BSc.

May 2022

College Park, Maryland, USA

EXPERIENCE

BlueHalo

Research Engineer

June 2022 - present

Rockville, Maryland, USA

- Researcher in graph theory, logic, mathematical modeling. Focused on applications to inference, natural language processing.

The Math Citadel

Researcher

March 2019 - present

- Conducted original research in fuzzy algebra, graph theory, information geometry
- Developed and optimized numerous scientific computing packages
- Contributed to technical articles

Patton Electronics

Software Engineering Intern

Summer 2016

Gaithersburg, Maryland, USA

- Developed a Linux-based operating system for VDSL router prototypes
 - Wrote, patched hardware-specific kernel modules
 - Optimized and automated build process

SKILLS

Languages

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

Operating Systems

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

Tools, Libraries

L^AT_EX, Git, SciPy/NumPy, GNU Radio

Web

HTML, CSS, Apache, Gopher, OpenSearch

RESEARCH AND PUBLICATIONS

Logical Limit Laws for Layered Permutations and Related Structures

Authors: Samuel Brainfeld, 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)