

MATTHEW J. KUKLA

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EDUCATION

University of Maryland
Mathematics, BSc.

awarded May 2022
College Park, Maryland, USA

EXPERIENCE

BlueHalo Labs
Research Engineer

June 2022 - present
Rockville, Maryland, USA

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

The Math Citadel
Researcher

March 2019 - present

- Conducting original research in fuzzy algebra, probability theory
- Developing scientific computing packages
- Contributor to technical articles, lectures, and notes

Patton Electronics
Software Engineering Intern

Summer 2016
Gaithersburg, Maryland, USA

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

SKILLS

Languages	C, OCaml, Python, Fortran, Julia, Prolog, Java, MATLAB
Operating Systems	Linux, UNIX (BSD and Solaris), MS-DOS
Tools, Libraries	L ^A T _E X, shell scripting, 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

6th International Conference on Applied Category Theory

University of Maryland (August 2023)

University of Maryland Geometry Festival

University of Maryland (May 2019)

Witt Vectors, Deformations, and Absolute Geometry

University of Vermont (June 2018)