MATTHEW J. KUKLA

mkukla1@umd.edu ◇ https://mkukla.net ◇ https://github.com/matt-kukla

EDUCATION

University of Maryland — **awarded May 2022**
Mathematics, BSc. — ***College Park, Maryland, USA***

EXPERIENCE

BlueHalo — **June 2022 - present**
Research Engineer — ***Rockville, Maryland, USA***

· **Researcher in graph theory, formal logic, mathematical modeling.**

- **Focused on applications to inference, natural language processing (NLP)**

The Math Citadel — **March 2019 - present**
Researcher

· **Conduct original research in fuzzy algebra, probability theory.**
· **Developed scientific computing packages**
· **Contributor to technical articles, lectures, and notes**

Patton Electronics — **Summer 2016**
Software Engineering Intern — ***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, Julia, Prolog, Java, MATLAB**
Operating Systems	**Linux, UNIX (BSD and Solaris), MS-DOS**
Tools, Libraries	**LaTeX, 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 Braunfeld, 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)