MATTHEW J. KUKLA

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

EDUCATION

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

EXPERIENCE

BlueHalo June 2022 - present
Research Engineer

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

The Math Citadel March 2019 - present
Researcher

· 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 Summer 2016
Software Engineering Intern *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	LaTeX, Git, NEC2, SQL, GNU Radio
Web	HTML, CSS, Apache, Gopher

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

University of Maryland Geometry Festival
University of Maryland (May 2019)

Witt Vectors, Deformations, and Absolute Geometry
University of Vermont (June 2018)