Curriculum Vitae
Charlie Magland

Education	**PhD, Mathematics** (In progress) *University of Washington, Seattle, WA* **Masters, Mathematics** (December 2024) *University of Washington, Seattle, WA* **Bachelor of Science, Mathematics** (April 2022) **Applied & Computational Mathematics Emphasis (ACME)** *Brigham Young University, Provo, UT* ● Magna Cum Laude
Research	**Summer Geometry Institute Fellow** (July - August 2021) *Massachusetts Institute of Technology, Cambridge, Massachusetts* ● Learned basic concepts and techniques for geometry processing ● Analyzed various measures of complexity for 2D shapes and compared with human intuition ● Explored and implemented various methods of cutting three dimensional closed shapes for optimal two dimensional parametrization ● Used computational shape morphing and optimization methods to generate surfaces optimal for architectural design **Research in 2D Shape Complexity** (July 2021 - February 2022) With Dr. Kathryn Leonard, Occidental College ● Compare human perception of shape complexity with established complexity measures ● Generate randomized shapes of known complexity ranking to test complexity measures ● Use clustering algorithms to group shapes of similar complexity based on multiple complexity measures **Research Assistant** (February 2020 - April 2022) *Brigham Young University Department of Mathematics, Provo, UT* ● Study combinatorial properties of finite groups, especially dicyclic groups and difference sets ● Develop computational methods for efficiently finding embedded relative difference set structures ● Find infinite families of skew relative Hadamard difference sets in dicyclic groups ● Study theoretical underpinnings of relative difference sets
Teaching	**Primary Instructor, Calculus with Analytic Geometry I** (June - August 2024) *University of Washington, Seattle, WA* **Math Circle Instructor** (October 2023 - Present) *University of Washington Math Circle, Seattle, WA* **Teaching Assistant** (September 2022 - Present) *University of Washington, Seattle, WA* ● MATH 124: Calculus with Analytic Geometry I (Fall 2022, Winter 2023, Spring 2023, Fall 2024)

	• MATH 120: Precalculus (Summer 2023, Fall 2023, Winter 2024) **Grader, Introduction to Mathematical Reasoning** (March - June 2024) *University of Washington, Seattle, WA* **Teaching Assistant, Linear Algebra** (January - April 2020) *Brigham Young University Department of Mathematics, Provo, UT*
Awards	**Excellence in Teaching Award** (December 2024) *University of Washington Department of Mathematics, Seattle, WA* **Dean's List** (Winter 2022, Fall 2021, Spring 2021, Winter 2021, Fall 2020, Spring 2020, Winter 2020, Fall 2019) *Brigham Young University College of Physical and Mathematical Sciences, Provo, UT* **The Outstanding Freshman in Mathematics** (March 2020) *Brigham Young University Department of Mathematics, Provo, UT*
Manuscripts	Anderson, G., Halivard, A., Holmes, M., Humphries, S., Magland, B. Difference Sets Disjoint From a Subgroup III: The Skew Relative Cases. *Graphs and Combinatorics* 39, 67 (2023). https://doi.org/10.1007/s00373-023-02662-8 Bazazian, D., Magland, B., Grimm, C. et al. Perceptually grounded quantification of 2D shape complexity. *Vis Comput* 38, 3351–3363 (2022). https://doi.org/10.1007/s00371-022-02634-8
Blog Posts	Dietz, K., Magland, B., and Sahillioglu, Y. "2D Cut Optimization." MIT Summer Geometry Institute, 2021 (blog post: http://summergeometry.org/sgi2021/2d-cut-optimization/) Dietz, K., Magland, B., Vidaurri, M., and Leonard, K. "2D Shape Complexity." MIT Summer Geometry Institute, 2021. (blog post: http://summergeometry.org/sgi2021/2d-shape-complexity/)
Committees and Community Involvement	**Co-Chair, Spectra: The Association for LGBT Mathematicians, UW Student Chapter, Seattle, WA** (April 2024 - Present) **Secretary, Association for Women in Mathematics, UW Student Chapter, Seattle, WA** (May 2023 - May 2024) **Understanding Sexuality, Gender, and Allyship (USGA), Provo UT** Secretary (April 2021 – April 2022) Community outreach committee chair (January - March 2021) Community outreach committee member (August - December 2020)
Skills	**Python, Matlab, Magma**