KASHIF BARI

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EXECUTIVE SUMMARY

PhD trained experimental mathematician with research background in writing code for investigating and proving conjectures about the underlying structures within the geometry of tensors. Looking for opportunities to combine my love of code and mathematics in a real world setting.

SKILLS

Python, C++, GIT, Sage, MATLAB, R, Docker, MAGMA, Macaulay2, LaTeX, XML, HTML, Linux Ubuntu

CERTIFICATIONS

AWS Machine Learning Certification (2021)

WORK EXPERIENCE

· **Mathematics Graduate Research Assistant at Texas A&M University** *2017-Present*
Used Python to experimentally investigate tensor ranks and border ranks in conjunction with ideas from representation theory and algebraic geometry to theoretically confirm conjectures in Complexity Theory.

· **Mathematics Graduate Teaching Assistant at Texas A&M University** *2015-Present*
Leading recitations in Engineering Calculus I and II as well as teaching Python and MATLAB to Engineering students in the context of Calculus; Graded for Introduction to Proofs, Applied Algebra for Math Majors, and Graduate Algebra I and II (Qualifying Exam courses)

· **Mathematics Graduate Assistant Lecturer at Texas A&M University** *Spring 2019, Spring 2020*
Created and implemented lesson plans as the primary instructor for Topics in Contempary Math II (topics include but not limited to Bayes Theorem, Probability Distributions, Finance, Linear Algebra, Markov Processes).

EDUCATION

Texas A&M University *2015 - Present*
PhD in Mathematics, GPA: 4.0
Thesis: On the Structure Tensor of $\mathfrak{sl}_n$
Advisor: J.M. Landsberg

San Diego State University *2012 - 2015*
M.A. in Mathematics,
Thesis: A Commutative Algebraic Approach to Hamiltonians and Graphs
Advisor: Michael O'Sullivan

University of California, San Diego *2008-2012*
B.S. in Mathematics, Minor in Music

PUBLICATIONS

K. Bari and M. O'Sullivan, *The Hamiltonian problem and t-traceable graphs*, **Involve**, DOI: 10.2140/involve.2017.10-5

K. Bari, *On the Structure Tensor of* $\mathfrak{sl}_n$, arXiv: 2105.08171, *pre-print*