Brian Bollen

A Current Ph.D. student in Applied Mathematics who has strong background in research in mathematics and computer science, developing web and mobile applications, and 3+ years of teaching at the University of Arizona under his belt.

bbollen23@gmail.com (315) 507-0131 linkedin.com/in/brian-bollen-a3123484

EDUCATION

PhD in Applied Mathematics *May 2022 (Expected)*
University of Arizona ***Tucson, AZ***

B.S. in Mathematics, Minor in Computer Science *August 2013 - May 2017*
University at Albany ***Albany, NY***
GPA: 3.83

TECHNICAL SKILLS

`HTML` `CSS` `Javascript` `Python` `React` `React-Native` `D3.js` `Node.js` `Express.js` `GraphQL` `MongoDB` `SQL`

RESEARCH

Research Assistant *September 2018 - Present*
University of Arizona ***Tucson, AZ***

Currently working with Professor Joshua Levine of the Computer Science department at the University of Arizona. Our research is focused on the study, design, and implementation of similarity metrics for topological structures to aid in the analysis of multifaceted scalar fields. While our research is rooted in mathematical theory which has been created by other researchers, our main focus is on the application of these metrics. In addition, we are interested in leveraging machine learning techniques to (1) create similarity metrics through supervised training and (2) aid in the computation of computationally complex metrics such as interleaving distance and functional distortion distance on Reeb graphs.

PROFESSIONAL EXPERIENCE

Co-Founder *June 2020 - Present*
TutorYard, Inc. ***Tucson, AZ***

Co-Founded a Tucson-based Tutoring company which hires graduate and undergraduate students to tutor students privately and through local charter/private schools.

Personally focused on developing and maintaining a website where users were able to find and book tutors smoothly.

Developing software for charter schools where administrators and teachers are able to view analytics of all students we are tutoring based on effective data tracking by our tutors.

Teaching Assistant *September 2017 - May 2020*
University of Arizona ***Tucson, AZ***

Taught mathematics at the university level for courses including Pre-Calculus and Calculus for seven semesters.

OTHER PROJECTS

MuView: Music Review Visualization for Exploratory Analysis *September 2019 - Present*

Currently designing and implementing a visualization of Music review data from various publications to provide users with a more full, exploratory experience when searching for new albums to listen to. Current implementation uses a combination of D3.js and React.js with Redux to provide a visual interactive tool of review data from 2018.