Annie **Giokas**

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Education

University of Utah   *Salt Lake City, UT, US*

B.Sc. with Honors in Mathematics   *Jan 2020 - May 2022*

GPA: 3.98

Ivane Javakhishvili Tbilisi State University   *Tbilisi, Georgia*

B.Sc. in Mathematics with a minor in Computer Science   *Sep 2015 - Dec 2017*

GPA: 3.1

Research Experience

The Noetherian property of invariant rings   *with Professor Anurag Singh*

https://github.com/annie-giokas/The-Noetherian-property-of-invariant-rings   *Fall 2021*

- Found new class of counterexamples in each positive characteristic of invariant rings that are not Noetherian
- Found characteristic zero invariant rings that are not Noetherian
- This work was supported by funding from the Undergraduate Research Opportunities Program at the University of Utah

Lazy Power Series package in Macaulay2   *with Professor Karl Schwede*

https://github.com/annie-giokas/M2PowerSeries   *Summer 2021*

- Implementation of Formal Power Series in Macaulay2
- Uses a generative (lazy) way of determining values
- Includes full documentation
- Jupyter notebooks for presentations and testing included in repository

Reading courses

Commutative Algebra

Supervised by Professor Josh Pollitz   *Spring 2021 - Summer 2021*

- *Introduction to Commutative Algebra* by Michael Atiyah, Ian G. Macdonald

Representation Theory

Supervised by Jack Cook   *Fall 2020*

- *Advanced Modern Algebra, Part 1* by Joseph J. Rotman
- Directed Reading Program (DRP)

Matrix Lie Groups

Supervised by Professor Aaron Bertram   *Spring 2021*

- *Naive Lie Theory* by John Stillwater

Categories, Symmetries and Manifolds

Supervised by Professor Aaron Bertram   *Fall 2020*

- Notes located here: https://www.math.utah.edu/ bertram/4800/

Presentations and Talks

The Undergraduate Mathematics Symposium   *University of Utah*

Lazy Power Series Package in Macaulay2   *August 2021*

Presentation Notes: https://github.com/annie-giokas/math-projects-archive/tree/main/SUMMER2021_Lazy_Power_Series

The Undergraduate Mathematics Colloquium   *University of Utah*

Formal Power Series in Macaulay2   *Nov 2021*

Presentation on Formal Power Series rings was targeted towards first year and second year undergraduates

Graduate student Commutative Algebra Seminar of the University of Utah, BIKES *University of Utah*

Taylor Resolution *Nov 2021*

Presented examples of minimal and nonminimal Taylor resolutions to a graduate student audience

Nebraska Conference for Undergraduate Women in Mathematics *University of Nebraska-Lincoln*

The Noetherian property of invariant rings *Jan 2022*

Will be presenting results of my undergraduate thesis

The Noetherian property of invariant rings *Dixie State University*

Utah Conference on Undergraduate Research (UCUR) *Feb 2022*

Will be presenting my undergraduate thesis results in an accessible way

University of Utah Virtual Symposium *University of Utah*

The Noetherian property of invariant rings *April 2022*

To be presented as a participant of UROP

Community and Leadership

Undergraduate Student Advisory Committee chair

University of Utah *Sept 2021 - present*

- Lead a team of 5
- Established the Math Club at the U as an official student organization at the University of Utah
- Assisted in the Faculty Retention, Promotion, and Tenure (RPT) process in Fall 2021

President of Math Club at the U

University of Utah *Sep 2021 - present*

- Founder of the official student organization
- Events focused on undergraduate students planned for Spring 2021
- Seminar led by undergraduate students planned for Spring 2021

Specialist - International Student Office

Salt Lake Community College *Feb 2019 - Jul 2019*

- Maintained student databases and filing systems (ISSM, Banner 9) and front-desk work
- Managed a weekly newsletter for international students
- Created an instructional training document for new trainees
- Automated tasks in the office using Excel

Scholarships and Awards

Undergraduate Research Opportunities Program (UROP) Award University of Utah *Fall 2021*

C. Bryant and Clara C. Copley Scholarship University of Utah *Fall 2021*

RTG: Algebra, Geometry and Topology Award University of Utah *Summer 2021*

Introduction to Research Award University of Utah *Fall 2020*

Science Research Initiative (SRI) Scholarship Award University of Utah *Spring 2020*

Dean's List University of Utah *Spring 2020-Spring 2021*

Skills

Programming/Markup languages Macaulay2, LaTeX, Java, C++, C#, Python

Languages English (fluent), Georgian (native), Russian (fluent)