Sanah Suri

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Education

Grinnell College **Grinnell, IA**
B.A. in Mathematics and Computer Science | Cumulative GPA: 3.74/4.0 | Major GPA: 3.81/4.0 *Spring 2020*
Selected Coursework: Real Analysis, Abstract Algebra, Partial Differential Equations, Graph Theory, Mathematical Modeling, Probability and Statistics
Independent Study: Studied first 8 chapters of *Numerical Analysis* by Timothy Sauer and independently implemented all numerical algorithms in Python and helped build a solution manual to the textbook. Final project involves developing a library of PDE solvers.

AIT-Budapest **Budapest, Hungary**
Study Abroad | GPA: 5.0/5.0 *Fall 2018*
Selected Coursework: Theory of Computing, Computer Graphics

Research Experience

Research Assistant for Dr. Jennifer Paulhus **Grinnell, Iowa**
Grinnell College *August 2019-Present*
- Contributed mathematical and statistical data related to Higher Genus Curves with Automorphisms to the extensive L-Functions and Modular Forms (LMFDB) database in collaboration with a large team of mathematicians
- Communicated ideas about code organization and design with collaborators such as the structure of the statistics pages
- Managed the data and web pages using Python along with the database itself being PostgreSQL

Research Assistant for Dr. Joseph Mileti **Grinnell, IA**
Grinnell College *May 2019 – August 2019*
- Researched and studied properties of noncommuting graphs of finite nonabelian groups
- Developed algorithms in Magma to discover properties of the clique number and chromatic number of the given graphs
- Found significant results correlating the size of the group center and chromatic and clique number of the graph
- Poster presentation accepted by Joint Math Meeting and working paper in progress

Research Assistant for Dr. Marc Chamberland **Grinnell, IA**
Grinnell College *May 2018 – August 2018*
- Researched the mathematical phenomenon– "One-Seventh Ellipse Problem" under Prof. Marc Chamberland
- Collected evidence and formulated generalizations using Maple and Mathematica eventually finding a reasoning to prove the problem
- Utilized concepts from projective geometry, linear algebra and number theory
- Presented the research at Joint Math Meetings and the paper has been accepted by Mathematics Magazine

Teaching Experience

Teaching Assistant for Dr. Sam Rebelsky and Dr. Titus Klinge **Grinnell, IA**
Department of Computer Science *Spring 2018; Spring 2019*
- Assisted instructors for two semesters in teaching Functional Problem Solving (CSC-151) with a focus on data science and textual analysis to a class of 30+ students
- In addition to creating weekly quizzes conducted weekly sessions to guide students through fundamental topics and coding problems

Tutor **Grinnell, IA**
Grinnell College Math Lab *August 2017-Present*
- Tutored introductory calculus on a walk-in basis for 4 semesters
- Guided students through homework problems and helped with exam preparation

Grader **Grinnell, IA**
Department of Mathematics and Statistics *August 2017-Present*
- Graded problem sets and maintained score records for various professors over 4 semesters
- Corrected 75+ problems for calculus and 50+ problems for linear algebra and differential equations weekly

Publications and Presentations

- **A Generalization of the One-Seventh Ellipse**
  Marc Chamberland, Shida Jing, **Sanah Suri**
  Accepted by *Mathematics Magazine* in May 2019
  Preprint
- **Colorings of Algebraic Structures**
  Alicia Ledesma Alonso, Jiyayi Chen, Jasper Egge, Joseph Mileti, **Sanah Suri**
  Working paper in progress
- **The One-Seventh Ellipse Problem**
  Poster presentation at *Joint Math Meetings 2019* at the *Mathematical Association of America (MAA) Undergraduate Poster Session*
  Talk at *Nebraska Conference for Undergraduate Women in Math 2019*
- **Colorings of Algebraic Structures**
  Accepted poster at *Joint Math Meetings 2020*
  Accepted talk *Nebraska Conference for Undergraduate Women in Math 2020*

Additional Experience

Elected Member **Grinnell, IA**
Mathematics Student and Educational Policy Committee (SEPC) *April 2019-Present*
- Collaborate with the faculty to organize events for both majors and prospective majors
- Conduct faculty reviews for tenure and promotions by incorporating student input
- Restarted the Minorities in Math club for women and people of color in mathematics and statistics to come together to openly discuss their experiences and give suggestions for diversity efforts

President **Grinnell, IA**
South Asian Student Organization (SASO) *August 2017-May 2019*
- Led an organization of 70+ people under Grinnell's Multicultural Leadership Council
- Organized campus wide events with themes of culture, social justice and inclusion

Intern **New Delhi, India**
World Wide Fund for Nature (WWF) *June 2017-August 2017*
- Created budgets and proposals for the Corporate Alliances division of WWF-India to encourage large corporations to invest in wildlife projects
- Liaised with departments like Climate Change and Policy Research to learn more about ongoing projects and their budgetary needs

Honors and Awards

Dean's List **Grinnell, IA**
Grinnell College
- Placed on the Dean's List in Spring 2017, Spring 2018 and Spring 2019 for having a term GPA higher than 3.75

Iowa Intercollegiate Math Competition **Grinnell, IA**
Iowa Section of the MAA *Spring 2018*
- Secured third position out of 20+ teams from colleges all over the state

Programming Projects

- Graphing Distributions: C program that graphs histograms and cumulative distributions
- Numerical Analysis: Numerical algorithm implementations and partial differential equation solver
- Gem Swap: Gem swap game with graphics and logic implemented in C++ using OpenGL framework
- One-Seventh Ellipse: Explorations in Java of examples that follow the patterns of the One-Seventh Ellipse

Skills

Programming: Java, C, Python,Scheme, Kotlin, C++, Scheme, CSS, HTML, Ruby on Rails
Software and Databases: Mathematica, Maple, Magma, MATLAB, PostgreSQL, SQLite
Language: English (native), Hindi (native), French (basic), Japanese (basic), Hungarian (beginner)
Code Samples: https://github.com/sanahsuri