Aakash Gurung

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SKILLS

C++, Java, SQL, Python, LaTeX, HTML, CSS, Matlab

HONORS AND AWARDS

CUNY Undergrad Research Day 2024, Awarded best poster out of 200+.

USA Astronomy and Astrophysics Competition 2021, National round qualifier

International Olympiad on Astronomy and Astrophysics (IOAA), 2020

Nepal Mathematics Olympiad 2020, finalist.

Nepal Astronomy Olympiad Absolute Winner 2020

EDUCATION

The University of Alabama May 2027
BS+MA,Mathematics *Tuscaloosa, AL*
Juniata College May 2023
Mathematics and Computer Science *Huntingdon, Pennsylvania*
- Samuel J. Steinberger, Jr. Memorial Award

EXPERIENCE

Student Technology Assistant January 2024 – Present
Student Center, University of Alabama *Tuscaloosa, Al*
- Assist with technology related issues for events associated with the Student Center.

Peer Tutor October 2024 – Present
Mathematics Technology Learning Center *Tuscaloosa, Al*
- Drop in tutor for Calculus 1,2 and 3. Assisted in tutoring recitation classes for Calculus 1.

Junior Member and Outreach Coordinator November 2020 – July 2022
Nepal Astronomical Society *Kathmandu, Central*
- Organized the 2022 National Astronomy Olympiad and taught classes on Practical Astronomy and the Nature of Light
- Initiated outreach activities in 16+ schools where students were taught telescope handling, navigating the night sky, sundial construction, and mysteries of the Universe

Content Department and Outreach Department Head August 2020 – April 2022
Mathematics Initiatives in Nepal *Lalitpur, Bagmati*
- Created 20+ articles using LaTeX and explanatory videos using Manim and PowerPoint
- Organized 1st(2021) and 2nd(2022) Junior Math Olympiad camps in Nepal and took the role of Combinatorics and Algebra tutor and led the team. Assisted in tutoring Combinatorics in 4th iteration (2024).

RESEARCH EXPERIENCES AND CONFERENCES

- (May 2025- present) Developing and analyzing compartmental models with a focus on stability analysis and disease control strategies in a summer REU project with 4 others under professor Chuntian Wang's group.

- (Jan 2025- present) Working on the combinatorial nature of q,t Catalan polynomials under the guidance of Professor Kyungyong Lee.

- Aakash Gurung and Cheng-Han Pan, Continued Fractions, a-Fibonacci numbers, and the middle b-noise, Mathematics Exchange 18 (2024), no. 1, 77–87, https://doi.org/10.33043/r6a225bc.

- Aakash Gurung."Game of Cycles on Maximal Plane Graphs." Presented at CUNY Undergraduate Research Day 2024 and MathFest 2024.

- PolyMath Jr under Dr.Victor H.Moll. The integrals in Gradshteyn and Ryzhik. Part 34: Bessel functions. Published in Scientia Series A: Mathematical Sciences, Volume 34, March 19, 2024.Presented at JMM 2024.