Aakash Gurung

✉ aakash.grg159@gmail.com   in linkedin.com/in/aakash-gurung   ⧉ github.com/GrgAakash

Skills

Python(NumPy, pandas, SciPy), Julia, Matlab, PowerQuery,JavaScript, CSS, HTML.

Honors and Awards

CUNY Undergrad Research Day 2024, Awarded best poster out of 200+.
USA Astronomy and Astrophysics Competition 2021, National Round Qualifier.
Nepal Mathematics Olympiad 2020, finalist.
IOAA 2020 qualifier after obtaining Rank 1 in Nepal Astronomy Olympiad.

Education

The University of Alabama	May 2027
BS and MA,Mathematics	*Tuscaloosa, AL*
Juniata College	May 2023
Mathematics and Computer Science	*Huntingdon, PA*

- Samuel J. Steinberger, Jr. Memorial Award

Experience

IT Service Desk Student Assistant   August 2025 – Present
University of Alabama   *Tuscaloosa, AL*
- Provide timely software and technology support to resolve user issues efficiently.

Peer Tutor   September 2024 – Present
Mathematics Technology Learning Center   *Tuscaloosa, AL*
- Drop in tutor for Calculus 1,2 and 3. Run recitation classes for Calculus 1.

Student Technology Assistant   January 2024 – August 2025
Student Center, University of Alabama   *Tuscaloosa, AL*
- Assist with technology related issues for events associated with the Student Center.

Projects

SIHRS Model Simulation with Real Data   May 2025 – July 2025
- Built SIHRS epidemic simulator using Gillespie SSA and ODE solvers.
- Processed NYTimes COVID-19 time series and large HHS Excel datasets (using Unix/Linux,Power Query,Julia and Python), enabling county-level parameter estimation for predictive modeling.

Research and Conferences

- (May 2025- July 2025) As part of a Summer 2025 REU research team, we (5 members)analyzed "finite size effects" in epidemic modeling by co-developing an agent-based stochastic model. We studied the stochastic behavior of disease spread, compared it with its deterministic ODE counterpart, and conducted case studies based on COVID-19.

  Mentors: Professor Chuntian Wang, Professor Yuanzhen Shao, Professor Yuanyuan Song

- (Feb 2025- present) Exploring combinatorial proofs of Q,T Catalan numbers while also exploring its algebraic structure under the guidance of **Professor Kyungyong Lee.**

- (Feb 2024- June 2024) Worked on the Project Game of Cycles on Maximal Plane Graph under the mentorship of **Professor Malgorzata Marciniak** with the support of CUNY Research Scholars Program. Presented at CUNY Undergraduate Research Day 2024 and MathFest 2024.

Publications

- 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.

- 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.