Goodsell Gazette

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MinneWiADS: Women in Analytics & Data Science set for May 15, 2020

Save the date for MinneWiADS, a brand new conference on May 15 bringing together leaders, experts, and interested individuals in analytics and data science, especially those who identify as female and non-binary, to share knowledge, make connections, and inspire one another. This event will include technical sessions and business applications, as well as panel discussions on gender diversity, experiences in the field, women in leadership, and much more. Contact wiads@minneanalytics.org to get involved! Learn more at http://minneanalytics.org/minnewiads/.

Budapest Semesters in Mathematics Info Session

When: Friday, January 24, 4:45-5:30pm
Where: CMC 206

Are you interested in studying abroad in beautiful, historic Budapest with either the Budapest Semesters in Mathematics or the Budapest Semesters in Mathematics Education program? If so, you are invited to an information session about the programs themselves as well as the application process. We hope to have the directors of BSM and BSME there to answer questions. This meeting will be held Friday, January 24, 4:45-5:30 in CMC 206.

More information and the department application (due February 2) is available online at https://www.carleton.edu/math/off-campus/. Contact Gail (gnelson@carleton.edu) with questions.

Inclusion/Exclusion: Building a More Welcoming Math/Stats Community

When: Friday, February 7, 3:30-4:30pm
Where: Weitz 236

Are you interested in math/stats? Are you curious about gender issues? Come join us in Weitz 236

from 3:30-4:30 pm on Friday, February 7 for stories and conversations about the intersection between math/stats and gender at Carleton. This event is open to both students and faculty.

Carleton Students Present at MAA Undergraduate Poster Session in Denver

Last Friday, ten Carleton students presented posters in the MAA Undergraduate Poster Session at the Joint Mathematics Meetings in Denver. Marietta Geist and Abby Loe presented a poster called Minimal Discriminants of Rational Elliptic Curves with Specified Isogeny. Their work is joint with Owen Ekblad of University of Michigan at Dearborn, Alvaro Cornejo of the University of California-Santa Barbara, and Kayla Harrison of Eckerd College; the project was supervised by Alex Barrios. Aaron Li, with Elizabeth Cooper of Oberlin College, presented a poster called Spectral Properties of the Exponential Distance Matrix. Jackie Chan, Tenzin Kunsang, Elisa Loy, Fares Soufan, and Taylor Yeracaris presented a poster called Implementing a Math Circle in Middle School, which is based on their ongoing comps project, supervised by Deanna Haunsperger. Brody Lynch and Emma Qin presented a poster called Statistics on Almost-Fibonacci Pattern-Avoiding Permutations with Unbalanced Bases, based on research supervised by Eric Egge. All of the Carleton posters generated substantial interest and big crowds, and the posters by Aaron Li, Jackie Chan, Tenzin Kunsang, Elisa Loy, Fares Soufan, Taylor Yeracaris, Brody Lynch, and Emma Qin were named "Outstanding" by the MAA judges. Kudos to everyone who presented their work!

Upcoming Events

Week 3

Friday, Jan 24, 4:45-5:30pm
Budapest OCS Info Session - CMC 206

Week 5

Friday, Feb 7, 3:30-4:30pm
Inclusion/Exclusion Event - Weitz 236

Job, Internship, & Other Opportunities

Mathematica - Business Analyst

Mathematica Policy Research, Inc. is a nationally recognized, nonpartisan firm that conducts domestic social policy research on health care, welfare, education, labor, and related topics. Mathematica's mission is to improve public well-being by bringing the highest standards of quality, objectivity, and excellence to bear in our work for our clients which include federal, state, and local government agencies, and private foundations. They are seeking a bright, energetic, and highly motivated person to join our team as a Business Analyst in our Washington, DC or Woodlawn, MD office. Find more information and apply at https://carleton-csm.symplicity.com/students/app/jobs/detail/38ebd2ebcad58025f01d65526b226a37.

Kraft Analytics Group - Data Science Intern

An intern within the Data Science & Analytics group of the Kraft Analytics Group (KAGR) will have the opportunity to join a fun, dynamic team and will help to solve business and data problems relating to the business side of the sports and entertainment industry. The intern would be working very closely with team members for the summer and would get experience cleaning data, making graphs, and doing some modeling. Students who have taken Data Science or 245 are perfect candidates. Contact Emily Kaegi (emily.kaegi@gmail.com) with any questions and find the job posting at https://www.paycomonline.net/v4/ats/web.php/jobs/ViewJobDetailsjob=24539&clientkey=912B8057F90262FB6C89287A6B52A934.

Verisk Analytics - Data Science Intern and more

This opportunity is brought to us by a Carleton alumna, Elizabeth Montgomery â€™92 (ebmontgomery2@gmail.com). Elizabeth reached out to let us know that the parent company of the company she works for just published some open summer internships throughout the country. To see details and the full list of internship opportunities and apply, go to https://carleton-csm.symplicity.com/students/app/jobs/detail/abd6dbf0272db4ef5598ff53dd1aac80.

Relativity Trace - Software Engineer

Relativity is a market-leading, global tech company that equips legal professionals with a powerful platform to organize data, discover the truth, and act on it. As an Advance Software Engineer, you will be responsible for architecting, designing, implementing and testing cloud native, SaaS software while consistently applying best practice software engineering. For more information go to https://illinoisjoblink.illinois.gov/ada/r/jobs/7099552.

Problems of the Fortnight

To be acknowledged in the next *Gazette*, solutions to the problems below should reach me by noon on Tuesday, February 4.

1. Suppose you start with a regular n-gon, where $n \geq 5$, and you draw in all the diagonals that don't pass through the center. This divides the region enclosed by the regular n-gon into several parts, one of which contains the center.

   a) What is the shape of the part containing the center? How do you know?
   b) What is the area of the part containing the center, as a function of n and of the area of the entire region?

2. No doubt you have seen at least one example of two consecutive perfect squares (of positive integers) whose sum is a perfect square: $3^2 + 4^2 = 5^2$, or maybe $20^2 + 21^2 = 29^2$.

   a) Show that the sum of *three* consecutive perfect squares cannot be a perfect square, and that the sum of *four* consecutive perfect squares cannot be a perfect square.
   b) Find the smallest integer $k > 2$ such that the sum of k consecutive perfect squares *can* be a perfect square, and for that value of k, find k consecutive perfect squares whose sum is a perfect square.

Both problems posed January 10 were solved by "Auplume" and (with the help of *Mathematica*) by John Snyder in Oconomowoc. Alas, no student solutions have arrived so far; on the other hand, it will be a while before my own solutions are posted, so if you were planning to submit a solution, it's not too late. We seem to be in for some gloomy weather, so why not find a cozy spot and try a problem, old or new?

- Mark Krusemeyer

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