

Gianforte School of Computing



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What's New...



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From the Director



Greetings! Since the commencement of our K-12 outreach program during Fall Semester 2013, the number of students majoring in computer science at Montana State University has nearly tripled: growing from 281 to 508. As greater numbers of students realize the varied, meaningful, impactful, in-demand opportunities that result from studying computer science, our organization is undertaking numerous strategies that provide more and better opportunities for our students.

One such strategy revolves around improving our public spaces. If remodeled well, our public spaces can better convey characteristics of computer science and computing careers. During the past year, we have updated our main office to convey a discipline that is modern, fun and connective. Butterfly artwork from noted Montana artist, Terry Karson, is the pièce de résistance of this remodel. Not only is the artwork beautiful and unexpected, it connects the world of art to the world of computer science by illustrating a fundamental computer science problem solving strategy: repetition with variation. Enjoy the accompanying photo that shows this artwork. And the next time you visit Bozeman, please drop by our main office at Barnard Hall 357 to visit us and see for yourself.



Happy Computing!

Around the GSoC...

- Nazmul Kazi and Jachi Madubuko received the MSU Presidential Emerging Scholar Awards. Nazmul will attend the Rocky Bioinformatics Conference and Jachi will attend the San Francisco Search Inside Yourself Conference.
- Dr. Indika Kahanda was named Outstanding Faculty Member of the Month by MSU's Office of International Programs.
- Five GSoC students received funding through the Undergraduate Scholars Program at MSU. Congratulations to Britney Gibbs, Nazmul Kazi, Jachi Madubuko, Marie Morin, and Carie Pointer.
- Dr. Shane Strasser ('17) and Dr. John Sheppard received the Walter E. Person Best Paper Award at IEEE AUTOTESTCON 2017.
- Alan Cleary, Ph.D. student, received the Best Student Paper Award at the ACM BCB Conference, a premier conference for computational biology research.

CS Students Attend National Conferences

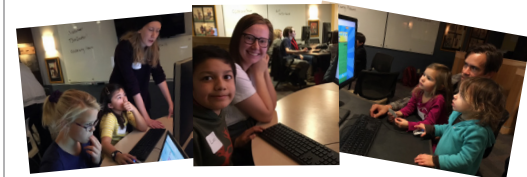
The GSoC encourages computer science students to develop leadership skills and investigate the field of computing through attending national conferences. During the Fall Semester, 18 students attended the Grace Hopper Celebration for Women in Computing Conference in Orlando; ten attended the oSTEM Conference in Chicago; and another student attended the ACM Richard Tapia Celebration of Diversity in Computing in Atlanta.

Students took advantage of workshops, networking, and career fairs and receiving several summer internships!



Hour of Code

The GSoC hosted over 55 K-12 students and their parents on December 6th and 7th in our Student Success Center. We all had a great time and look forward to Hour of Code 2018!



**Thank You
Industry Affiliates!**

ORACLE **workiva**

Meet our Students



Aurora Kehoe

Hometown: Emigrant, MT.

High School: Park High School in Livingston.

Year at MSU: Sophomore.

Why MSU? I love the mountains and MSU has a good CS program.

Why Computer Science? I chose to major in computer science because I took a coding class in high school and fell in love with it.

Advice for future students? Work hard, ask for help whenever you're struggling, and have fun.

Future Plans? My future plans are to further study computer science and learn more about software engineering.

If Aurora was invisible for a day? I would climb to the roof of every tall building.

If Aurora could travel in time? If I could time travel I would like to visit Nikola Tesla.



Nate Tranel

Hometown: Billings, MT.

High School: Skyview High School.

Year at MSU: Junior.

Why MSU? It's close to home, cheap, and has a good reputation.

Why Computer Science? I was minoring in computer science and did not like my major. It ended up being a lot more fun than I expected!

Advice for future students? Plan out your classes and apply for everything you have the opportunity to do, whether it be scholarships, music groups, sports, teams, etc. You never know who will accept you!

Future Plans? I'm considering graduate school - I don't know where yet, but I am interested in continuing school for a little longer.

If Nate was invisible for a day? I would sneak into somewhere I normally couldn't go so I could see what it is like.

CS Study Abroad - Vienna!

Twelve computer science students traveled to Technische Universität Wien (TU-Wien), Austria for a six-week study abroad program. Sixteen students from TU-Wien also participated in the course taught by Dr. John Paxton. In addition to the course, Python!, students also traveled to Graz and Salzburg finishing their program with an optional bike trip along the Main River in Germany.

Stay tuned for the next CS study abroad program in the summer of 2020!



Storytelling to Teach Programming

The GSoC is developing a new outreach program spearheaded by Dr. Brittany Fasy, Dr. Mike Wittie, Dr. Barbara Komlos, Department of English, and Dr. Sweeney Windchief, Department of Education. The team was awarded an NSF grant to improve the pipeline for rural and American Indian students entering computer science. The team is developing and researching storytelling as a culturally responsive way to interest American Indian and rural Montana middle school students in learning computer science.



The program will incorporate current Montana State curriculum standards. This will allow computer science to be used in various subject areas and provide an understanding of computing skills and their relevancy across disciplines and professions. Alice, an object-based educational programming environment that has already proven to be successful in engaging and retaining diverse and under-served groups in computer science, will be used in the storytelling program.

Through outreach, the program has engaged over 250 middle school students over the past several years. For more information, please contact Suzie Hockel, Program Coordinator, at suzanne.hockel@montana.edu or (406) 994-4780.



Demand Generation Update

Joy and Beauty of Data

We are pleased to offer the Joy and Beauty of Data (JBD) this summer. The teacher training course is intended for grade 7-12 teachers who want to expand their ability to incorporate computational ideas in the classroom. The course will be offered July 23-27. Stipends are available for Montana teachers.

Please contact Diana Paterson, (406) 994-5679 or dianap@montana.edu, for more information.

K-12 Online Teachers' Forum

The GSoC is launching an interactive forum with the goal of supporting Montana teachers and to enhance classroom computing activities. Teachers will be able to share experiences, activities, ask questions and provide answers to colleagues.

In addition to the forum, we are updating our outreach website to include links to summer camps, professional development opportunities, and other school programs. We plan to launch the forum and updated website Spring Semester.

Who's Who in the GSoC



Dr. Upulee Kanewala joined the Gianforte School of Computing in August, 2015. Originally from Sri Lanka, Dr. Kanewala attended the University of Peradeniya where she completed a Bachelor of Science in Computer Engineering. She continued her studies at Purdue University where she completed an M.S. in Computer Engineering and a Ph.D. at Colorado State University in Computer Science.

Dr. Kanewala's research focuses on software testing, software engineering, machine learning, scientific software development and testing. Currently, she is developing testing techniques for testing programs for which the correct output is unknown. For example, for complex scientific simulations, it is often not known what the correct output looks like.

Dr. Kanewala currently advises four graduate students and welcomes students interested in working on software testing and quality assurance. She encourages students to contact her if they would like to get involved with her research at both the undergraduate and graduate level.

When asked what excites her about the future of computer science, Dr. Kanewala is most excited about how computer science "helps to solve problems that are impactful in many ways for the betterment of human life." She is also excited about new realities because of computer science, such as self-driving cars, personalized medicine, sustainable food sources, etc. In addition to research, Dr. Kanewala teaches software engineering and software applications courses.

Dr. Kanewala enjoys living in a smaller city, the outdoors, and watching super hero movies. She also enjoys being a Mom to her son Indira!

Software Factory Code Club

The GSoC, Irving Elementary School, Bobcat Software Factory, and MSU Association for Women in Computing piloted a code club



targeting K-5th grade students. GSoC students, faculty, staff, and parents, volunteered to provide expertise to teach computing skills to students.



Thirty-four students participated during the inaugural Code Club.

We plan to offer the code club next year!



For more information about Demand Generation Initiatives or questions about the GSoC, please contact Sharlyn Izurieta, (406) 994-4794 or Sharlyn.Izurieta@montana.edu.