

# Gianforte School of Computing



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## What's New....



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### From the Director

Greetings! I hope 2016-2017 has treated you well. This semester I am developing and teaching a new course at Bozeman High School with Kerri Cobb entitled The Joy and Beauty of Data. A continuation of The Joy and Beauty of Computing, the new course extends a student's ability to solve problems with the Python programming language, while gently introducing the field of data science. During the week of July 17th, Montana State University will offer a teacher training opportunity for this new course through our MSSE Program. Due to the generosity of the Gianforte Family Foundation, eligible Montana teachers may apply to receive free tuition and a \$1,000 honorarium.

The Gianforte School of Computing continues to undertake initiatives that make computing more appealing to a larger and more diverse population of students. 19 MSU CS students attended the Grace Hopper Celebration of Women in Computing Conference in Houston, five students attended the oSTEM Conference in Denver and 12 students will participate in an upcoming 5-week study abroad course in Vienna. To make computing more appealing to students from non-STEM fields, we have proposed a Computer Science B.A. degree. To help visitors understand what computing is and who we are, a new hallway wrap now leads visitors to our main office. Please check it out the next time you are in town.

Happy Computing!

### Spring Break Road Trip

Eleven students traveled with Dr. Paxton to Colorado for the 3rd annual Tech Road Trip during spring break in March. The students networked and met with MSU alumni and toured Ball Aerospace, IBM, Lockheed Martin, Google, City of Boulder's data center, Fast Enterprises and Trackvia. The group also visited the Denver Zoo and attended a Colorado Avalanche game.

The annual road trip is open to all CS students and includes travel and accommodation costs. Previously, students have traveled to Seattle, Boise and the San Francisco area. Stay tuned for the 2018 Tech Road Trip!



### "Hello World!"

The Gianforte School of Computing has been undergoing a transformation this semester. We've added a fun new wrap in our hallway and renovated our main office and conference room. We welcome everyone to stop by to see the improvements!



### Around the GSoC....

- MacKenzie O'Bleness, CS undergraduate student, received a Student of Achievement Award from the MSU Women's Center.
- Ph.D. student Utkarsh Goel competed in the College of Engineering's Three Minute Thesis Competition in March. He received the People's Choice award for his presentation.
- Ashley Bertrand and MacKenzie O'Bleness were recognized among the 40 outstanding seniors at the MSU Alumni Association/Bozeman Chamber of Commerce Awards.

**Thank You  
Industry Affiliates!**

**ORACLE® workiva**

### 2017 GSoC Awards

*Congratulations to our faculty  
and student award recipients!*

- Outstanding Course Assistant**  
Ashley Bertrand
- Outstanding Teaching Assistant**  
Jici Huang
- Outstanding Ph.D. Researchers**  
Logan Perreault  
Guangchi Liu
- Outstanding Faculty Service**  
Dr. Binhai Zhu
- Outstanding Faculty Researcher**  
Dr. Brittany Fasy
- Professor of the Year**  
Dr. Qing Yang



## Who's Who in the GSoC

Dr. Clemente Izurieta joined the Gianforte School of Computing in August, 2008. Originally from Santiago Chile, Dr. Izurieta attended the University of Wollongong, Australia, where he completed a Bachelor of Science in Mathematics. He continued his studies at Montana State University where he received a Master of Science in Computer Science. After working with Hewlett-Packard and Intel for 15 years he completed his PhD. at Colorado State University in Computer Science in May, 2009.

Dr. Izurieta enjoys the omni present and collaborative nature of computer science.

Current research includes:

- Sentiment analysis of narratives that are used to inform residents of flooding hazards
- Quality assurance research and development of sustainment management software for the Department of Defense.
- Development of software architecture for precision agriculture.

Dr. Izurieta is always interested in potential undergraduates that show promise and interest in graduate studies. Dr. Izurieta will help develop a plan for undergraduates to get started through the Undergraduate Scholars Program (USP) at MSU. He is also the director of the Software Factory, a pedagogical lab where senior students can get involved through capstone projects.

He enjoys working with students and colleagues in other departments and the interdisciplinary nature of projects.

You can find Dr. Izurieta running on the trails around Bozeman during his spare time.

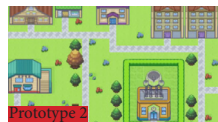
## Blueprints: The Game

"Blueprints: The Game" was developed by GSoC students John Trapp, Tyler Mattioli and Jason Sanders through the Bobcat Software Factory, [www.bobcatsoftwarefactory.com](http://www.bobcatsoftwarefactory.com), an option for their senior capstone interdisciplinary project.

The students were tasked with the MSU Department of Education's "Blueprints" for Student Success Team to develop a real-world game to help prepare high school students for life at a higher education institution.

- **The problem:** Many high school students are not prepared for the formal and informal societal roles that are expected of them once they enroll at a higher education institution.
- **Solution:** According to John Trapp, "the game uses a virtual campus where students (users) encounter and resolve common challenges that first year students are subject to." High school students learn how to be successful and develop an understanding of how to navigate the intricacies of college life, including being independent, making mistakes, and understanding how to fix them.
- **Outcome:** High school students who play the game and participate in the Blueprints program will be successful at a higher education institution thereby reducing the number of students who drop out of school.

The team will test the game at local high schools to solicit feedback from teachers, administrators, and students to determine its effectiveness. For more information, please contact Clem Izurieta, GSoC faculty advisor.



## Demand Generation Update Joy and Beauty



We are pleased to offer two 2-credit summer MSSE courses for Montana teachers, *Computer Science in the Classroom: Computational Thinking for Teachers*, a.k.a *The Joy and Beauty of Computing (JBC)* and *Computer Science in the Classroom: The Joy and Beauty of Data (JBD)*.

High school teachers who take one or both courses can potentially teach JBC or JBD as a dual enrollment course. In addition, teachers who take the JBD course will be introduced to the broad area of computational thinking and data science and will extend their knowledge of the Python programming language. JBC will be offered June 13-17 and JBD July 17-21. Stipends are available for teachers for both courses.

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

## Small Grant Program for MT Schools

This year's recipients are using their awards to incorporate various computing projects into their curriculum. Students from White Sulphur Springs are learning how to program using Hackaballs and the Brainstorm Robotics Club at Foothills Community Christian School competed for the first time at the FIRST Competition in January.

We are looking forward to the outcomes of the projects later this summer!

For more information about the small grant program, please contact Sharlyn Izurieta.

For more information about Demand Generation Initiatives, please contact Sharlyn Izurieta, 994-4794 or [Sharlyn.Izurieta@montana.edu](mailto:Sharlyn.Izurieta@montana.edu).



## Outreach Activities!

GSoC students volunteered in a variety of outreach activities this year, including Hour of Code, Expanding Your Horizons, Engineering-athon, Hawthorne STEAM Night, Three Forks STEM Day, Sit with Me - MSU and the Across Montana Program.

Thank You to our amazing students!



## Meet our Students!



### Marie Morin

**Hometown:** Hamilton, MT

**Year at MSU:** Sophomore

**Why MSU?** MSU is a reputable engineering school and has a ton of opportunities for outdoor recreation really close to campus which is something I'm really into...which makes MSU perfect.

**Why Computer Science?** I've always liked computing and writing code and knew that I'd really like to learn more about it and make a career out of messing around with computers!

**Why Computer Science?** I've always liked computing and writing code and knew that I'd really like to learn more about it and make a career out of messing around with computers! It's something I find fun yet challenging.

**Advice for future students?** It's not all going to be super fun and exciting, but you'll always be able to find something in computer science that you'll enjoy. It's versatile, and even if you're not passionate about writing code or doing research, you will be able to find something that speaks to you.

**Future plans?** Hopefully find a job where I can do fun stuff and live somewhere beautiful.

**Favorite Pizza?** Thai Pie from Mackenzie River. Hands down, I could eat it all day, every day.



### Joe Whitney

**Hometown:** Helena, MT

**Year at MSU:** Senior

**Why MSU?** I heard great things about MSU's engineering program and MSU hosted several events I attended in high school.

**Why Computer Science?** I love the creativity that comes from designing solutions to problems, and, I think, in many ways it is at its purest point in computer science.

**Advice for future students?** There are more opportunities (in CS and at MSU in general) than were fathomable to me when I first came here. Find something you're interested in and get involved with it.

**Future plans?** I will be continuing my internship with Workiva this summer and, will hopefully continue working at Workiva or for NAVSEA in Keyport, WA.

**If Joe was invisible?** I would enjoy doing little acts of kindness, seeing people's reactions, and not having them know it was me.

