

Atanasoff Today



Developing Our Future

Department of
Computer Science
Fall 2015/ Winter 2016

IOWA STATE UNIVERSITY

Greetings Alumni and Friends of Iowa State University

I am now in the middle of my second year as Chair of Computer Science, and I am happy to say that it just keeps getting better. Currently, I am appreciating the full cycle of academic activities; from the rush to get ready to start a new academic year, to the welcoming of the many new undergraduate and graduate students. I am also enjoying exploring new educational and curricular directions and celebrating the many accomplishments of our students and faculty. In fact, after moving to Iowa State, I have even learned to appreciate the full cycle of seasons (the perennial warm weather of Southern California now just seems soooo boring...).

This past year, we have been very busy. In Fall 2014, the department hired two Assistant Professors: Wei Le, who works in software testing and software reliability, and Jeremy Sheaffer, who works in high-performance computing and hardware architectures for computer graphics. Both have a PhD in computer science from the University of Virginia. In addition, Adisak Sukal joined our department as a full-time Lecturer at the end of the Fall 2014 semester; He has a PhD from Chulalongkorn University in Thailand, but he is no stranger to Iowa State, having been a visiting researcher in computer engineering during 2007-2008.

Three of our faculty members, Oliver Eulenstein, Yan-Bin Jia, and Wallapak Tavanapong, were promoted to the rank of Professor; many congratulations to them for their successes and well earned promotions, and thanks to them for the even larger responsibilities they are taking on.

Finally, David Weiss, Professor of Computer Science and Electrical and Computer Engineering, retired at the end of the summer. We will miss his contributions and commitment to the software engineering program and, on a personal note, his well-reasoned demeanor and his sense of humor. Currently, our department is experiencing record enrollments in both our undergraduate and graduate programs. During the 2014-2015 academic year, we had 506 BS students enrolled in computer science, 338 BS students in software engineering, and 35 MS and 70 PhD students in computer science. Enrollments for the 2015-2016 academic year are even higher, with 585 BS students enrolled in computer science, 449 BS students in software engineering, and 92 MS and 92 PhD students in computer science. According to trade magazines, this surge of interest in our discipline is here to stay, and we welcome the opportunity to expand our reach to more and more students with progressively diverse interests and backgrounds, as well as the challenges inherent in having increased demands on our teaching and research infrastructure.

This past year saw many of our students bring home top honors. A team of our students competed in the ACM International Collegiate Programming Contest (ICPC) World Finals, in Marrakech, Morocco.

This is the most prestigious programming competition in the world with thousands of schools hoping to reach the

finals, but only 128 actually doing so. This is the second year in a row that our department has sent a team to the World Finals. This is a testament to the dedication and skills of the team trainer, our Senior Lecturer, Simanta Mitra. Another international achievement involved our own PhD student, Marious Dragomiroiu, who was part of an interdisciplinary team of ISU students earning first place at the Data Mining Cup in Berlin, Germany.

In addition, Shelby Hockey, a sophomore in computer science and employee in the CS office, not only received the University's Student Employee of the Year Award, which is very competitive; but she also brought home top honors from the Grace Hopper Celebration for Women in Computing. Shelby's responsibilities in the main office are many, but her contributions have been, and are still particularly essential to the development of our new departmental website, which is undergoing a complete redesign.

Our department is proud of these accomplishments, as they attest both the quality of our students and the commitment of our faculty. More locally, several of our faculty are deeply engaged in outreach activities, hosting Computational Thinking Workshops for K-12 students throughout the year, and culminating in the Computational Thinking Competition, which we held on April 18, 2015. Saturdays are usually calm in Atanasoff Hall, but on that day the building was bursting at the seams with the energy and enthusiasm of a very sizable future generation of computer scientists. To paraphrase police chief Martin Brody in the movie Jaws: "We're gonna need a bigger building!"



Computer Science Chair:
Gianfranco Ciardo

Atanasoff Today

Alumni Newsletter Fall/Winter 2015

Atanasoff Today is published once a year for the alumni, friends and faculty of the Department of Computer Science at Iowa State University, an academic department in the College of Liberal Arts & Sciences.

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All Science is Computer Science

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Spotlight on Computer Science Sisters - Cassidy and Cami Williams

Recent Computer Science Alumna, Cassidy Williams, 22, has found success post-graduation with numerous job offers.

While at Iowa State University, Williams spent her four years as an undergraduate winning hackathons, interning at Microsoft, and racking up job offers. Google, Apple, Intel, and LinkedIn all wanted her — but Williams chose Venmo, a start-up that makes a popular payment app. “I wanted to go to a place where I could make a big impact,” she says. Cassidy recently made the decision to leave Venmo for the opportunity to work with her sister, Cami at Clarifai. Her words to live by: “Find something you love, and then find all the possible ways you can do that.”

Williams is a graduate of Iowa State University. Recently, she was a part of Glamour.com’s article, *35 Women Under 35 Who Are Changing the Tech Industry*. To check out the article, please visit: <http://www.glamour.com/inspired/2014/09/top-new-women-leaders-in-technology/33> to learn more about Williams and other women making a difference in technology today and in the future.

Computer Science student Cami Williams has a lot to be excited about. She was recently awarded a full-time job at Clarifai in New York after meeting Matt Zeiler a pioneer in machine learning and artificial intelligence. Zeiler was looking for a developer evangelist to help bring his company, Clarifai to the public.

“When we found out about this, my sister Cassidy and I jumped on the opportunity,” says Williams, “She (Cassidy) recently resigned from Venmo and shortly after finishing my internship at Apple I signed on full-time. I move to New York and start at Clarifai this coming Monday. I will work for Clarifai remotely as I study abroad this final semester in Caceres, Spain, and then move to New York permanently after graduation in December.

While in Europe, I will travel to hackathons and conferences promoting Clarifai, alongside finishing my Spanish minor.”

Williams is currently a senior in Computer Science at Iowa State University.

Iowa State University is proud to recognize recent graduates of Computer Science and their successes in computing careers!

Graduate Students

Bitragunta Venkata
Software Development Engineer
Amazon
Bellevue, Washington

Yijia Xu
Software Engineer
Rockwell Collins
Cedar Rapids, Iowa

Ragavi Pala Janardhan
Advisory Consultant
PricewaterhouseCoopers
Minneapolis, Minnesota

Sean Mooney
Software Engineer
Source Allies Inc.
Des Moines, Iowa

Undergraduate Students

Recent undergraduate students in computer science at Iowa State University have found employment with the following companies:

Amazon
Epic
IBM Corporation
Information Technology Services
Facebook
Syngenta
Hewlett-Packard
Lockheed Martin Corporation
FullCount

NCS Pearson, Inc.
Iowa State University
Epic
Telligen
Cerner Corporation
Thomson Reuters
Microsoft Corporation
Workiva

Recent undergraduate students in computer science have been accepted to graduate programs at the following universities:

Columbia University
Iowa State University
John Hopkins University

Penn State
Seoul Game Academy
University of Southern California

Computer Science Clubs & Groups

The Department of Computer Science offers numerous opportunities for students to become more involved in computer science. These clubs and events support student collaboration and help create an atmosphere where students can work and grow together.

Throughout the year, students can enjoy peer mentoring workshops, extra-curricular activities, hack-a-thons, and many more exciting opportunities to get to know other computer science students at Iowa State University.



Computer Science and Software Engineering Club. Back Row: Cole Cummings (Vice President), Simanta Mitra (Advisor), Gabrielle Ortman (WebMaster), Alexandra Lenger (Social Chair), Hunter Praska (Treasurer)

Computer Science Ph.D. Student, Marius Dragomiroiu, Part of First Place Team at 2014 Data Mining Cup in Berlin

Computer Science Ph.D. student, Marius Dragomiroiu, was part of a team of Iowa State University graduate students who topped 98 other universities from 28 countries to capture first place in the 15th annual Data Mining Cup in Berlin. It is the first time a team from the United States has won the competition.

Teams had six weeks to develop a solution for a data mining problem about optimal return prognosis. Teams had to use an unidentified online store's historical purchase data to create a model for new orders that predicts the probability of a purchase being returned. Over a six-week period teams worked at their respective universities to develop their probability predictions.

A jury scored all 57 submitted solutions and invited the top 10 teams to Berlin to present their solution methods at the Prudsys User Days conference. Each team gave a 10-minute presentation. The top-place Iowa State team received 2,000 euro prize money (about \$2,700) and a plaque. No other American university placed in the top 20. The next highest were Northwestern University (24th place) and the University of Southern California (36th place).

Iowa State team members and their departments are Guillermo Basulto-Elias (statistics), Fan Cao (statistics), Xiaoyue Cheng (statistics), Marius Dragomiroiu (computer science), Jessica Hicks (bioinformatics and computational biology), Cory Lanker (statistics), Ian Mouzon (statistics), Lanfeng Pan (statistics) and Xin Yin (bioinformatics and computational biology/statistics).

Molecular Programming Paper Wins Award for Excellence in Software Theory and Practice

The paper, "Automated Requirements Analysis for a Molecular Watchdog Timer", by Samuel J. Ellis, Eric R. Henderson, Titus H. Klinge, James I. Lathrop, Jack H. Lutz, Robyn R. Lutz, Divita Mathur, and Andrew S. Miner, received the IFIP TC2 Manfred Paul Award "for Excellence in Software: Theory and Practice" at the 29th IEEE/ACM International Conference on Automated Software Engineering (ASE 2014) in Västerås, Sweden.

The authors are all members of the Computer Science department's Laboratory for Molecular Programming (LAMP). Ph.D. Student Sam Ellis presented the paper and accepted the award at ASE.

ISU Computer Science Students Top 2,300+ Teams for Spot at ACM Programming World Final for 2nd Consecutive Year



Senior Trevor Boone, Junior Jacob Smith, Senior Lecturer Simanta Mitra, Senior Tyler Uhlenkamp, Ph.D. student Anindya Das at the World Finals.

For the second consecutive year, ISU Computer Science students traveled world-wide to participate in the ACM International Collegiate Programming Contest (ICPC) World Finals.

The ACM ICPC is the premiere global programming competition conducted by and for the world's universities. At the event, teams of three students represented their university in a multi-tier highly difficult competition. Teams worked to solve challenging problems through creativity, teamwork, and innovation.

Three students traveled to Marrakech, Morocco from May 16th-21st, 2015 to participate in the competition. Computer Science seniors, Trevor Boone and Tyler Uhlenkamp, and junior, Jacob Smith, represented Iowa State University. Senior Lecturer of Computer Science, Dr. Simanta Mitra, served as coach, aided by teaching assistant and Ph.D. student, Anindya Das.

This was Uhlenkamp's second trip to the international competition representing ISU. When asked about his experience at these competitions, Uhlenkamp said, "I have gained a ton of experience interacting with people around the world. We befriended teams from South Africa, Denmark, and Bangladesh, among others. Learning about their homes and cultures was really interesting and insightful. I'll surely take this knowledge and these skills into my future career."

During 2014, Uhlenkamp joined students Minsuk Kang, and Mingwei Ling at the competition in Ekaterinburg, Russia. There, they excelled, receiving the prestigious UPE First to Solve Problem 1 Award. To give a little perspective, in order to make it to the World Finals, teams must advance over thousands of other universities. In 2015, more than 2,500 universities competed internationally, with only 128 schools continuing on to the world finals. The amount of work and practice going into the preparation for the competition is extremely rigorous.

"These students put in so much dedication and effort," Mitra said. "Every Sunday, this past year, they met to practice and work together."

Computer Science Chair and Professor, Dr. Gianfranco Ciardo, credits Mitra for the group's success, "Dr. Simanta Mitra has contributed great coaching for these teams. The students have gained much through his effort and knowledge."

Dr. Mitra appreciates the support provided by the Department of Computer Science. "We receive a lot of support from the program through funding and services from faculty and staff."

In addition to being a fantastic learning experience, the competition has proven to open doors for students in their future careers. "Participating in this competition gives students a big edge, job-wise," Ciardo said, "Especially at companies like Google and Microsoft. This competition gives students an insight on the types of interviews to expect."

Students interested in competing in future ACM ICPC contests are encouraged to practice and ask questions. "I encourage students to definitely try it," Mitra said, "Don't worry about getting into the first or second team. Instead, focus on learning new techniques in order to mature and progress."

Uhlenkamp credits the competition for improving his knowledge in algorithm design and analysis. He learned much about what kind of real life problems can be solved and which are impossible, as well as how to solve them (or prove their impossibility). He suggests students to continue to try to compete. "Push yourself hard before the contest. Know all the algorithms and their uses. Compete in as many international competitions online as possible before the contest."

The next ACM Regional Programming Contest will be held in Nebraska. Winning teams will advance to the 2016 World Finals.

Sophomore Computer Science Student, Shelby Hockey Awarded Student Employee of the Year



Darlene Brace, Abigail Andrews, Shelby Hockey, Lance Sacknoff, Nera Davis
photo contributed by Lance Sacknoff

Computer Science Sophomore, Shelby Hockey, Has a Lot to Be Proud Of...

On April 3rd, 2015, Hockey was awarded Student Employee of the Year. Out of all of the student employees at Iowa State University, only 88 students were nominated, with just one student chosen to win the award.

When asked what it was like to receive this honor, Hockey replied, "Winning this award was amazing. Being an undergrad, or even just an office assistant, sometimes you forget how the seemingly simple tasks help everyone else so much; it's nice to be appreciated for all that I have done."

For the past year (2014-2015), Hockey has worked as an administrative undergraduate assistant for the Department of Computer Science. Her job responsibilities included office administration assistance, support in organizing and overseeing department events, and most recently, working on updating the new Department of Computer Science website.

Department staff and faculty praised Hockey for her discipline and positive attitude. Software Engineering Programming Assistant, Lance Sacknoff boasts, "We couldn't be prouder of her. She is particularly talented and hardworking. She, more than anyone else, deserves the Student Employee of the Year award!"

Hockey is thrilled to have the chance to continue working for the Department of Computer Science.

"I just want everyone to know how great it is to be appreciated for the work I have done over the past year, and believe me, this job has opened up a lot of doors for me. I feel like I can communicate with the professors within the department, and I love when they ask me questions about what the students may prefer. I can't wait to come back for another great year!"

In addition to the honor, Hockey received a cash prize for her effort. Hockey says she looks forward to putting the money toward her education.

"I wouldn't be successful if it wasn't for the people that have helped me along the way, and I really want to help others the same way."

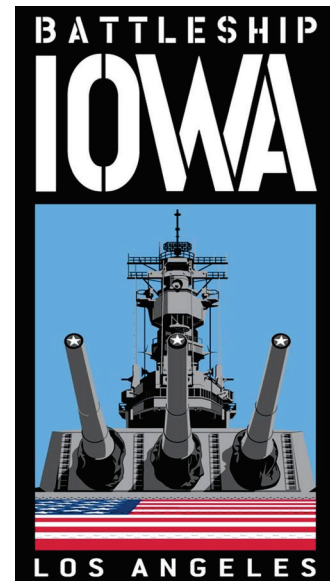
-Shelby Hockey

Game Created for Battleship Takes Flight

Recent graduates, Stefani Dao, James Boddie, and Peter Carlson continue to make big strides in the world of game design. Their game, *Seagull Escape*, is in the process of becoming a part of the vacation experience for travelers to USS Iowa Battleship in California.

In the game, players navigate through the battleship USS Iowa via a seagull character created by Dao, Boddie, and Carlson. "The purpose of the game is to maneuver the seagull around obstacles and people in the ship to escape while gathering as much points as possible," says Boddie. Dao, who visited the battleship last year says much of her inspiration for the design of the game came from her time at the USS Iowa.. "One of the great things that I liked about this project was having the ability to show what the inside of the ship looks like to others," said Dao.

USS Iowa Board member, Craig Johnson, is thrilled with the progress of this game and the excitement it has brought to the museum, "My hope is that the USS Iowa and Iowa State can continue this relationship for years to come, and we hope your students enjoy this mix of science, history, and philanthropy by helping us preserve the last Battleship to carry the name of the great state of Iowa," said Johnson. The game has currently been tested on many devices including tablets and mobile phones. "The update



today is that we are very close to having a deployable game," says Johnson, "Now that both James and Stefani have graduated this has morphed into more of a business relationship."

Dao also hopes to continue working with USS Iowa. "I really hope that future students will continue to work with the Battleship Center. I really think it was a great experience. As a student this project was really valuable," states Dao. When asked how other students could excel in game design, Boddie says, "The basics of computer science and computer engineering are extremely important, but you have to be very passionate about it and definitely know you stuff. For me, the most rewarding experience was watching other people enjoy something you created."

Progress for *Seagull Escape* will be announced at www.cs.iastate.edu.

Recent MFA graduate, Stefani Dao, presents her game to students and faculty



I really hope that future students will continue to work with the Battleship Center. I really think it was a great experience. As a student this project was really valuable."

-Stefani Dao

Game Development Class Finds Success

In Spring 2015, students in Jim Lathrop's Game Development Course (Computer Science 402) presented their year-long projects and the games they created. The games represent a variety of genres including action, adventure, and combat. Each of the groups presented the game overview, the character inspiration, music style choice, target audience, and navigation of the game.

The projects included a game titled *The Rustlers*. This game was created by Jacob Gruber, Andy Lawson, Tyler Cook, Temesgen Fekadu, Monica Kozbial, and Andrew Mushel. *The Rustlers* is a third-person shooter game that focuses on team tactics. Students in this group created characters that represent the elements of fire, water, air, and earth.

A second game called *Metagalactic Blitz* is a combat game that is inspired by the game of dodgeball. Students involved in developing this game include Peter Carlson, Jared Cook, and Matt Rottinghaus. Characters in the game have complete backstories and abilities that are useful in fighting other characters in combat. The gameplay for this game is four players with a team-based deathmatch. Characters can throw, launch, and reflect dodgeballs. Recently, the game has garnered some outside attention, and it will be interesting to see where it may lead for the developers.

"We are hoping this game takes off," said Carlson, "We hope we are able to continue working on games as a side hobby or maybe if we are really lucky, as a full time job." Carlson credits the course as a great way to learn about the makings behind a game. "The class taught me what it was like to actually design a game from the ground up all while working with others." To follow *Metagalactic Blitz's* progress visit:

facebook.com/metagalacticblitz or visit their website at pixelvex.com.



Tyler Cook plays *The Rustlers*

Character from *Metagalactic Blitz*



Above: Students play dodgeball game while Professor of Graphic Design, Anson Call watches

Below: Senior Lecturer Jim Lathrop plays *Metagalactic Blitz*



2015 Computational Thinking Competition Applauds K-12 Participants and Winners



Dr. Les Miller listens as 7-9 division participant, Spencer Campbell, explains his project.

On Saturday April 18th, K-12 students from around Iowa gathered at Atanasoff Hall to participate in the 2015 Spring Annual Computational Thinking Competition (CTC). Students showcased projects ranging from games and robotics to new ideas and inventions. The students' projects demonstrated their knowledge of coding and programming.

Throughout the day students showed enthusiasm as they explained their projects to faculty, staff, and student volunteers from the Department of Computer Science.

After the event, students gathered in the Durham Center to receive awards and recognition. Each division was awarded a prize for 1st, 2nd, and 3rd place. In all, there were four divisions broken up into the following categories: Kindergarten - 3rd Grade, 4th - 6th Grade, 7th - 9th Grade, and 10th - 12th Grade.

CTC offers numerous workshops throughout the year for K-12 students interested in computing and coding. Through the increased knowledge of Scratch programming, students and teachers alike can learn how to visually use code to learn and teach. Student projects are in the form of computational models that help students to understand a problem, understand all of the requirements for a solution, and have the ability to test and demonstrate the solution.

To learn more about CTC and other outreach activities, please visit the Department of Computer Science web site at: www.cs.iastate.edu

Students, teachers, and parents interested in additional information about computational thinking, or preparing for the CTC, can attend one of our CTC workshops, held on select Saturday mornings from 9-12:30.



Congratulations to the Computational Thinking Competition 2015 Award Winners!

Division K-3

1st Place: Wesley Baber:
Project Title, *Piano Guy*

2nd Place: Anika Shrotriya
Project Title, *Indian Culture*

3rd Place: Alek & Daniel Fialkov:
Project Title: *Food Police*

Division 4 - 6

1st Place: Sivakumar Pragulnath
Project Title: *Scribblenauts*

2nd Place: Mariana Correia, Ketty Nguyen
and Sofiya Palasyuk
Project Title: *AMS Digital Tour*

3rd Place: Mason Baber
Project Title: *Card Catalog on the Go*

Division 7 - 9

1st Place: Simeon Steward
Project Title: *Fireworks*

2nd Place: Andres Cordoba and Erik Nelson
Project Title: *Quarry*

3rd Place: Justin Kenny
Project Title: *Talkbot*

Division 10 - 12

1st Place: James Beetham
Project Title: *TaFi Calculator Program*


2nd Place: Sandeep Stanley
Project Title: *Computers!*

3rd Place: Ben Breshears
Project Title: *Physics Simulation*

Register Today! www.cs.iastate.edu/outreach



Ketty Nguyen, Mariana Correia, and Sofiya Palasyuk participated in CTC 2015 Spring Competition.



2015-2016 CTC Workshops

January 16th February 6th
March 5th

Competition April 16th, 2016



K-3 division participants, Alek & Daniel Fialkov collaborate on their project, Food Police.

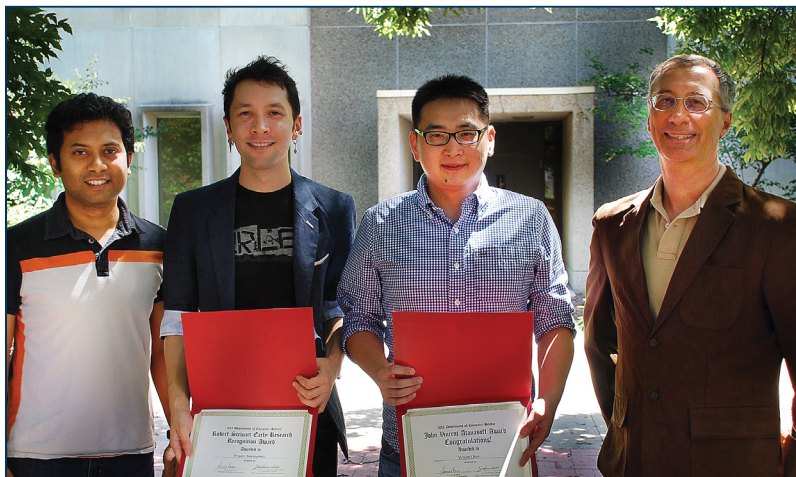
Chen, Nakayama, and Long Receive Prestigious Academic Awards

Graduate Students Receive Awards for Achievements in Computer Science

Computer Science graduate students Yetian Chen, Brian Nakayama, and Yuheng Long were honored in 2015 with prestigious academic awards. Chen received the John Vincent Atanasoff award, while Nakayama and Long both received the Robert Stewart Early Research Award.

The John Vincent Atanasoff award is given to outstanding graduate students to encourage their continued study of a Ph.D. degree. This endowment was made by the Atanasoff family in the memory of Clark Mollenhoff.

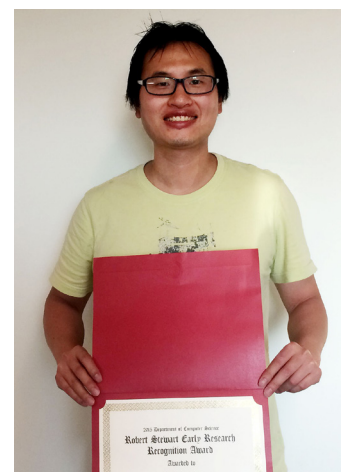
The Robert Stewart Early Research Award is given to Computer Science graduate students who are taking on a high-risk research subject. Brian Nakayama says, "I feel grateful that the department recognizes the work I've done so far during my time here." Currently Nakayama is investigating potential failures from design to implementation of DNA nanostructures by trawling for requirements and modeling interactions between nucleotides. Previously, he researched ways to model properties of the Iterated Prisoner's Dilemma Game in a cellular automaton. Nakayama attributes positive thinking to his success, "Extrinsic motivators make for bad motivation. Try to find something you enjoy or try to enjoy something you are doing." Nakayama suggests, "Live a well-balanced life and with luck things will work out. Do not be too hard on yourself if things don't work out. Not all research projects are as easy as others. There are hoards of other factors that can help or hurt one



From Left to Right: Dr. Samik Basu, Brian Nakayama, Yetian Chen, Department Chair Dr. Gianfranco Ciardo

when seeking success, so be kind - both to yourself and to others." Nakayama says in the future, he hopes that by providing new theories and tools, his research will aid biochemists in the construction of the novel DNA based nanostructures.

Yetian Chen, recipient of the John Vincent Atanasoff Award, says he is very thankful for this honor. "I feel extremely excited, honored and grateful to receive the prestigious John Vincent Atanasoff Award. I would like to give special thanks to my Ph.D. advisor, Dr. Jin Tian, for his recommendation and valuable guidance throughout my Ph.D. study. And I would like to thank the Computer Science Graduate Committee for selecting me." Chen credits the support of the faculty and staff at the Department of Computer Science and ISU for his continued success. When asked about what advice he would give to other students hoping to find similar success, Chen says, "Know what you love to do, do what you love with ambition, patience, and persistence."



Yuheng Long

"I feel grateful that the department recognizes the work I've done so far during my time here."

-Brian Nakayama

Teaching & Research Excellence Awards

Congratulations to the recipients of the 2014-2015 Teaching & Research Excellence Awards. Students who received these awards demonstrated dedication and superior qualities as teaching and research assistants.

FALL 2014

Teaching Excellence Award

Brian Nakayama
Kyoung Tak Cho
Titus Klinge

Research Excellence Award

Ali Darvish
Hyuntae Na

SPRING 2015

Teaching Excellence Award

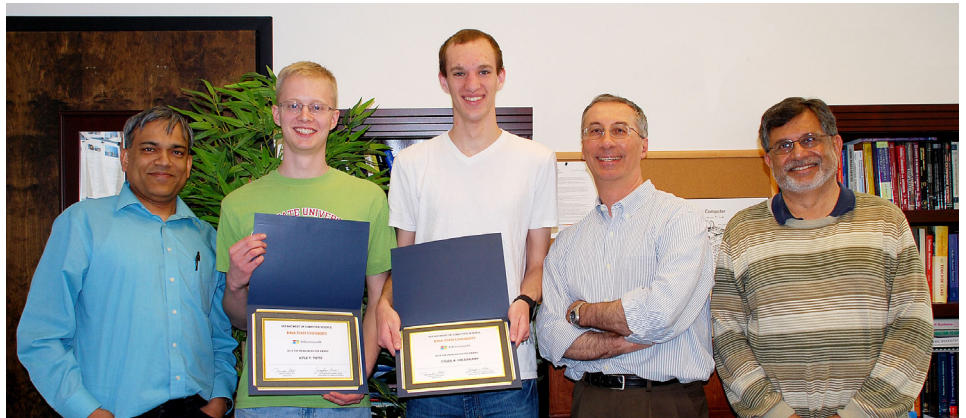
Dinesh Papineni
Lingjian Meng
Mehdi Bagherzadeh

Research Excellence Award

Vijay Vammi
Huan Lin

Boone, Uhlenkamp, and Tietz Receive 2015 Top Problem Solver Award

Senior Computer Science students, Trevor Boone, Tyler Uhlenkamp, and Kyle Tietz, were awarded the 2015 Top Problem Solver Award. Criteria for eligibility include demonstrated exceptional performance over a number of years, as well as experience solving problems under time constraints. These problems must also equal the difficulty level of programming contests (such as the ACM International Programming Contest). It is not required that the students have participated in a contest.



Dr. Simanta Mitra, Kyle Tietz, Tyler Uhlenkamp, Department Chair Dr. Gianfranco Ciardo, and Dr. Gurpur Prabhu

However, only seniors are eligible for this award. In addition, only students nominated by a faculty member are considered for this award. The award consists of a certificate accompanied by a cash prize. This year's Top Problem Solver Award is sponsored by the Department of Computer Science and Microsoft.

Computer Science Student Honored with Multicultural Liaison Office Outstanding Senior Award

Zach Plata, computer science major, received the MLO Outstanding Senior Award. Nominated by all three academic advisors in the Computer Science department, they describe him as a "bright, dynamic, well-spoken leader who is passionate about Computer Science and giving back to others." Zach has represented the College of Liberal Arts and Sciences as a Computer Science/Software Engineering Student Ambassador since 2014. Zach meets with students and their families during departmental visits, and with groups such as Experience Iowa State. He offers a student's perspective by highlighting his activities and roles on campus. He also answers questions about coursework, internships and the job outlook for computing majors. Zach has also served as a peer mentor in the CS/SE Learning Community, Corporate Liaison in the CS/SE Club, Co-Founder of HackISU, and has also had other internships. Zach has excelled in one of the most rigorous majors at Iowa State University. He exemplifies academic excellence having been on the Dean's List every semester. After graduation, Zach has accepted an offer as a software engineer with Cerner Corporation in Kansas City, MO. Congratulations, Zach!



WOMEN IN COMPUTING



Shelby Hockey
ISU Computer Science & Boeing Intern
Grace Hopper Scholarship Winner

"I hope that girls, especially in high school, learn that it is okay to be 'different.' Programming shouldn't be thought of just for males. I really hope we are able to change this thought process, because there are many young women who could excel in this field."

- Shelby Hockey

During the past year, several ISU technology students attended the Grace Hopper Celebration. At the conference, students heard from distinguished speakers, participated in workshops, and learned about the impact they can have in the future of computing.

Founded in 1994, the conference was created by computer scientists, Anita Borg and Telle Whitney. The idea being that this conference is created by and for women computer scientists. The Grace Hopper Celebration consists of a combination of both

technical, career, and poster sessions, as well as a career fair, awards ceremony, and more.

When asked about their experience at the conference, all of the participants had very optimistic and exciting things to say.

Software Engineering student, Victoria Rasavanh said, "It was amazing to think that there are so many women in computing that were willing to share their experiences with young people like us!" Rasavanh continued to say that she attended a variety of presentations including a few she was surprised about, "I learned that there are tons of people interested in the merging of art and technology! Creativity isn't just for 'artsy' people; it's for people in computing and technology too."

Additionally, the students learned how to work together collaboratively to advance their ideas. Computer Science student Emerald Cheney said, "One of the most rewarding activities I attended was a poster session consisting of high school students who shared their efforts and projects in computing. They were eager to receive feedback on their work, and I was proud to see so many young ladies with great ideas, efforts and questions." Cheney continued to say, "The event served as a reminder that there are students just like them in my own community, who offer a wealth of potential and promise. Moving forward I want to do more to support these young students."

Dr. Lu Ruan, Associate Professor of Computer Science, who attended with the students offered, "The conference is a great way for the students to see what is happening outside of the university. gives the students goals to aim for."

Many of the students said that one of the most important qualities they took away from the conference was how to make a difference in their own community. Computer Science student, Shelby Hockey, said, "Programming shouldn't be thought of as just for males. I really hope we are able to change this thought process, because there are many young women who could excel in this field. However, they currently let stereotypes get in the way of doing something they love and utilizing their potential."

Both Hockey and Ortman agree that mentoring and support systems are crucial, whether at school, or on the job. "I am very grateful to have a strong community of support at Iowa State," says Ortman.

"I am attracted by computer science's potential to be integral in all aspects of one's lives."

- Gabby Ortman



Gabby Ortman
ISU Computer Science/Software
Engineering & Lexmark Intern
Grace Hopper Scholarship Winner



Alyssa Barnes
Software Engineering



Kristin Clemens
Software Engineering



Susan Maslo
Software Engineering



Victoria Rasavanh
Software Engineering



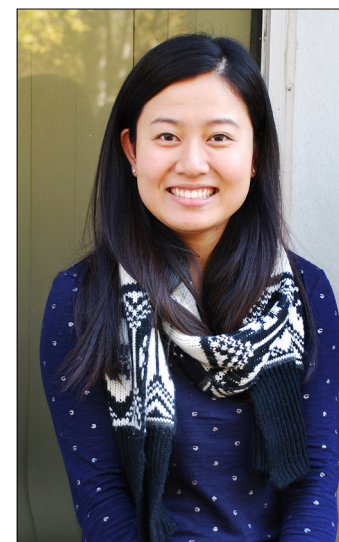
Emerald Cheney
Computer Science



Cami Williams
Computer Science



Alexandra Lenger
Computer Science/PR



Shirley Wang
Computer Science

"The workshop solidified everything I learned about career advancement at GHC, and provided me with concrete steps to take as I move forward into my field."
- Emerald Cheney

Welcome New Computer Science Faculty and Staff!



Dr. Adisak Sukal:
Lecturer of
Computer Science

"I'm glad to be back to Iowa State again, I look forward to providing quality lecturing and to continuing good research work here in the Department of Computer Science."

Dr. Sukal's past experiences include four years as Lecturer for the Computer Science department at King Mongkut's Institute of Technologies Ladkrabang. In addition, he worked as the Assistant Director of the Computer Service Center. He has been honored with the Distinguished Lecture award by the Faculty Senate and was awarded the Best Paper Award from the International Conference on Communications Systems and Technologies. Dr. Sukal is a returning faculty for Iowa State University. He served as a visiting scholar in Electrical and Computer Engineering for ISU in 2007 - 2008. Professionally, Dr. Sukal is a co-founder of three software companies in Thailand.



Dr. Jeremy Shaeffer:
Assistant
Professor of
Computer
Science

"I am happy to be in beautiful Central Iowa, which isn't nearly as flat as all the East Coasters think it is. Over the past year, I have found it a delight to work with the smart and motivated students of ISU."

Jeremy Shaeffer earned his Ph.D. in Computer Science from the University of Virginia in 2007. His dissertation, "Physical Constraints in Reliable Graphics Hardware Design," deals with electromagnetic interference and crosstalk, cosmic rays, power fluctuation, high temperatures, and other physical problems that affect microprocessor architectures, with specific approaches to mitigate their effects on GPU hardware. In the intervening time since completing his degree, he has worked at Nvidia, developing the CUDA driver, and at Sikorsky Aircraft Company, developing hardware and software solutions to reduce the costs of equipment maintenance. His research interests include high-performance computing, computer architecture, computer graphics, and especially the place where all three meet.



Dr. Wei Le:
Assistant
Professor of
Computer
Science

"Try not to be a man of success but rather try to be a man of value"

-- Albert Einstein

Dr. Wei Le received her Ph.D. in Computer Science from the University of Virginia. Her research focuses on program analysis and testing for software reliability, security, and productivity. Currently, her program covers the projects of analyzing program changes and program versions for bug detection and diagnosis, analyzing Android apps for security and reliability, analyzing InternetScale code repositories for software reuse and knowledge, and analyzing programs to find space and time vulnerabilities of software algorithms. Dr. Le has published papers in ICSE, FSE, TOSEM, TSE and ISSTA, and is a winner of DARPA STAC grant (2015), NSF Career Award (2014), Google Faculty Research Award (2011), FSE Best Presentation Award (2008), and Google Anita Borg Memorial Scholarship (2007).



Carla Harris:
Graduate Programming Coordinator

"To me, graduate students are exceptional people whom I enjoy working with. Getting to know them and helping them obtain their education has been a great experience and I am looking forward to watching them excel during and after their education. I couldn't ask for a better department with a great group of students!"

Carla has worked with Iowa State University for many years. While working in her previous departments, she realized how important graduate students were and knew what type of position she wanted to obtain. The Department of Computer Science provided the perfect opportunity for her to work solely with graduate students.



Sita Riblet:
Academic Advisor

"College can be a stressful time for students; I am looking forward to being a supportive resource person for students as they navigate their college years."

Sita's past work experience includes several years of higher education experience as well as a couple years in newspaper advertising. Most recently, she spent seven years working in the areas of Residence Life and Retention at Dordt College. Her higher education work has included training and leading student staff, working with students in academic and emotional distress, mediating conflicts, crisis management, academic accountability, and representing our department through various other avenues.

Dr. David Weiss Retires Summer 2015

Dr. David Weiss, professor of Computer Science, retired in Summer 2015 after six years at Iowa State University. Prior to joining the academia at Iowa State University, Dr. Weiss led a productive career in software engineering and computer science for over 40 years.

Prior to coming to ISU, Dr. Weiss was the Director of the Software Technology Research Department at Avaya Laboratories. His team at Avaya was ranked among the best industrial software engineering research organizations in the world by the Association for Computing Machinery. Notably, he invented the goal-question-metric approach to software measurement, and is the primary inventor of the FAST process for product-line software engineering.

He was also head of the Software Production Research Department at Lucent Technologies Bell Laboratories and held numerous other positions in industry and government. Weiss received a B.S. degree in Mathematics in 1964 from Union College which conferred on him an alumnus award for Outstanding Contribution to Computing and a M.S. in Computer Science in 1974. Continuing his education, he received his PhD in Computer Science from the University of Maryland in 1981.

Recently, Weiss was named an IEEE Fellow for his contributions to software measurement and product line engineering.

During his time at Iowa State University, Weiss created new courses in software development. In his courses, students from around the world collaborated to solve problems and learn about software engineering across cultures.



Dr. David Weiss in China, where he spent the summer teaching.

When asked about his favorite moments as a professor at Iowa State University, Weiss says, "I enjoy when students who have taken my class come back and tell how what they learned impacted their career and future. It is great to be able to keep in touch with such talented students."

Those of us at the Department of Computer Science will miss Dr. David Weiss's contributions and expertise in software engineering and technology. Additionally, Dr. Weiss says he "Will miss the people, the beautiful campus, and the library at Iowa State University. The people I've met here have been friendly and great to work with."

Dr. Weiss plans to take on a new career challenge during retirement and will pursue fiction writing. Weiss says he looks forward to writing short stories and narratives.

Congratulations to Recently Promoted Computer Science Faculty

Dr. Oliver Eulenstein, Dr. Yan-Bin Jia and Dr. Wallapak Tavanapong Were Promoted to the Rank of Professor Effective July 2015. Congratulations on Their Career Success!



Dr. Oliver Eulenstein:
Professor of
Computer Science

Discrete Algorithms
Computational
Biology
Bioinformatics



Dr. Yan-Bin Jia:
Professor of
Computer Science

Robotics
Geometry
Algorithms



Dr. Wallapak Tavanapong:
Professor of
Computer Science

Multimedia Systems
Database Systems
Distributed Computing
and Networks

2014 Cytation Awards

Department of Computer Science staff members Abigail Andrews and Miles Aronnax both received Cytation awards in 2014. Andrews works as an Administration Specialist III for the Department of Computer Science and Aronnax works as a Systems Analyst II for the College of Liberal Arts & Science Administration. Cytation awards are given to individuals that ISU recognizes as someone who does something above and beyond the call of duty, does something extraordinarily well, and acts in such a way as to make a very real difference in the institution.

Congratulations Abigail and Miles!

Software Engineering Update

The 2014-2015 school year saw many positive changes in the Software Engineering Program at Iowa State University.

In student achievement, we are pleased to honor many students who have excelled above and beyond in the field of Software Engineering. Among them, a special congratulations goes out to software engineering students, Trevor Boone and Tyler Uhlenkamp. Both Boone and Uhlenkamp were part of the ACM ICPC Programming Contest held this past year at Marrakech, Morocco.

Additionally, the team was also awarded the 2015 Top Problem Solver of the Year Award. Congratulations to both Trevor and Tyler!

Young women of software engineering represented Iowa State at the Grace Hopper Celebration Conference, held in Phoenix, Arizona. The students attended the conference where they learned how women in computing can make a difference in the future of software engineering and computer science. All of the students expressed gratitude toward the conference and the opportunities this event opened up for them. Victoria Rasavanh said,

“Thanks to Grace Hopper, I ended up with two internship offers from the companies I talked to! I ended up negotiating with both of them until they essentially had the same perks, which made it very hard to decide which to accept. It was a good problem to have!”

Additionally, we have had many faculty achievements in software engineering as well. Among them:

- David Weiss was named a 2015 Fellow by IEEE, the Institute of Electronic and Electrical Engineers for his “contributions to software measurement and product line engineering,” according to IEEE.
- Robyn Lutz was named a 2014 Association for Computing Machinery (ACM) Distinguished Scientist. The designation is given to ACM members “for their individual contributions and their singular impacts on the vital field of computing,” according to ACM.

In Summer 2015, Dr. Weiss chose to retire and pursue new challenges and endeavors. Those in Software Engineering will miss Dr. Weiss for his expertise and knowledge in the field of computing. We wish Dr. Weiss the best of luck on his new journey and

thank him for his time here at Iowa State University.

Finally, student enrollment has seen a few changes as well in regards to Software Engineering. Enrollment is up from the previous year raising from 338 BS students to a strong 450 students registered in the Fall of 2015. With so many new students, new places for student learning and collaboration were needed for the program.

This year, we are proud to announce the opening of the Software Engineering Learning Center (SELC). This center will serve as a place for students in the software engineering program to work together, learn and create new and exciting projects in the program. One of the key features of this room include the ability for Software Engineering students to collaborate on class team projects in SE and other courses.

Overall, this past year held many wonderful updates. From those of us in the Software Engineering Program at Iowa State University, we look forward to another year of positive growth that is full of achievement!

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