1932

The year when the underlying concept of IoT was first introduced in Jay B. Nash's book *Spectatoritis*.

Fortifying Computing in Student Societies
A focus on outreach initiatives.

With computing and computer technology being present in virtually every aspect of modern life, it is certainly not surprising that current enrollment rates in computer science-related departments is steadily increasing. For some students, the concept of studying computer science was an everlasting call since their first interaction with a computer. For others, computer science is an intriguing field that allows one to explore and express creativity.

Having a genuine interest certainly is the first step, but feeling part of the community is equally important on the road to a successful academic career. ACM student chapters across the globe have been very active in promoting computing and enhancing its spirit. In this issue, we focus on the actions of two chapters: the ACM student chapter at the University of Minnesota (UMN), Twin-Cities; and the ACM-W student chapter at Rensselaer Polytechnic Institute (RPI).

At UMN, the ACM student chapter has long devoted efforts to furthering the interest and knowledge of its members in the field of computing. They offer a number of ways for members to get involved in the computer science program. The chapter also promotes great opportunities for leadership and networking within the field. Chief among these is MinneHack, the annual hackathon event put on by the group. Supported by Major League Hacking,[1] this is one of the largest hackathon events in the Minnesota area. It gives students of all skill levels a chance to hone their skills and bond with their peers. ACM-UMN also puts on industry tech talks and an academic lecture series each semester to encompass both the industrial and academic realms of computer science.

The single most important activity of the chapter is community building. According to chapter officer Yevgeniya Polukeyeva, "The ACM-UMN chapter fosters a supportive community for all of its members. No matter the skill level or student status, a welcoming hand is extended to all. Members learn and grow every day from interacting with their peers, who are knowledgeable not only in technical endeavors, but in numerous other areas as well. The supportive environment of the group keeps people coming back and promotes longevity within the computer science program, as well as cultivating a broad range of relationships with fellow members that last well past the school years."

At RPI, the ACM-W chapter is also heavily involved with establishing opportunities for outreach and enhancing the role of female students in computing. Since its founding, ACM-W @ RPI has already accomplished great milestones in alignment with

RPI's ACM-W members gather at The Grace Hopper Celebration of Women in Computing Conference 2015.

---

1 If you are interested in hackathons, Major League Hacking is organizing a series of events in different countries, check out the schedule: https://mlh.io.

Photo by Sarah Schattschneider

Machines can tune in to the sound of their engines, learn from other machines what a failure sounds like, and if necessary, alert their owner.

its mission to support and strengthen diversity within computing at RPI. According to their chair, Sarabeth Jaffe, "We have been very active all this time. Last semester, we partnered with NYISO to put on a Toastmasters workshop to help our members master the art of public speaking. Some of our members attended the inaugural GHC event hosted by ABI in New York, a one-day immersive event modeled after the Grace Hopper Celebration of Women in Computing Conference. Chapter members also attended NYC-WiC hosted in Syracuse, NY, a conference aimed at promoting the academic, social, and professional growth of its participants by bringing together talented students, faculty, and industry leaders." Sarabeth adds, "Our members networked with some of the biggest names in tech and even got the chance to have dinner with ACM-W Chair and Union College Professor of Computer Science, Valerie Barr. This semester, we've held a women in CS meetup geared toward creating a supportive environment for freshmen CS majors." This past October, the chapter sent more than 27 students and faculty members to the 2015 Grace Hopper Celebration of Women in Computing in Houston, TX.

Biography

Vassilis Kalantzis received his computer engineering diploma in 2011 and his master's degree in computer science and technology in 2014, both from the Computer Engineering and Informatics Department, University of Patras, Greece. Since 2013 he has been a Ph.D. candidate with the Computer Science and Engineering Department at the University of Minnesota. His research interests span the areas of numerical linear algebra and parallel computing with applications in the fields of big data analytics and physics.

The Timeline of Things

The Internet of Things (IoT) encompasses many interacting components including item identification, networks, sensors, and communications protocols. Presented are a few key inventions that have helped drive the field forward.

1948 Norman Woodland and Bernard Silver begin exploring early bulls-eye shaped barcodes, which will later allow retailers, such as grocery stores, to automatically track product information and inventory.

1968 Ted Paraskevakos develops a method on top of the telephone system to automatically identify callers—the predecessor to our modern-day caller ID. Paraskevakos's system is one of the earliest demonstrations of machine-to-machine communication.

1982 Carnegie Mellon students connect their Coke vending machine to the Internet. They can view the quantity and temperature of the sodas from their computer terminals.

1999 Kevin Ashton, who coined the phrase "Internet of Things," co-founds the Auto-ID Labs at MIT. The primary goal of the lab is to further develop radio-frequency identification (RFID) as pervasive, inexpensive identifiers for individual items.

2011 Nest Labs releases their Learning Thermostat product. This thermostat is sensor-driven and Wi-Fi connected, and is one of the most recognizable domestic IoT innovations today.

—Jay Patel