

Featured UNDERGRADUATE ALUMNA: Pamela Vong

INSPIRING THE NEXT GENERATION OF FEMALE ENGINEERS

Pamela Vong graduated from URCS in 2008, one of only two women to graduate that year. Pam was the first undergraduate the department sponsored to attend the Grace Hopper Conference (in 2007). She has lived in Washington, D.C., for the past six-plus years and is currently working for InfernoRed Technology, where her official title is “Tech Wizard.” She consults in a wide range of software development projects (from LOB systems to mobile apps) and for a wide range of clients (including start-ups and nonprofits). Some notable Windows 8.1 apps she’s developed this year are the “Elmo Loves ABCs” game for Sesame Street and the “Be A Martian” app for NASA. Pamela received her master’s degree in information and communication technology from the University of Denver. Pam was married in June 2016 to Jason Zelbo, also a University of Rochester alumnus. She has been recognized by DC FemTech as one of the 2016 Powerful Women Programmers and participated in the White House TechJam in December 2015. Pam and her husband live with their dog and pet rabbit, who keep Pam company while she works from home.

Ed.: In 2007, you became the first undergraduate to be funded by the Department of Computer Science to attend the Grace Hopper Conference. You were able to attend GHC again in 2015. Comparing 2015 with 2007, how has it changed?

P.V.: The conference in 2015 was almost nine times bigger than it was in 2007. When I went as an undergrad, there were about 1,400 attendees, which felt huge to me at the time because I had never been around so many other technical women before! I also attended the conference in 2012, when it was starting to feel like it was getting too big to handle the logistics as well. But the 2015 conference in Houston was very well done. The venue was just the right size for the unbelievable number

of attendees (almost 12,000!) and there was enough variety in the sessions that there was always something interesting for anyone, regardless of their experience level. The only negative change due to the growth of the conference

conference felt like such a “safe” place, which is very rare for big tech conferences. Many people came out of their shells (me included) and were able to freely talk and bond with one another. The social satisfaction I got out of GHC is like no other tech conference in the world, and I still vehemently recommend it to every woman in tech that I meet.

Ed.: When you returned from the 2007 conference, we held our first UR Women in Computing event, and you shared your experiences from Grace Hopper with our cohort. Did this experience influence your desire to mentor women in computing, which seems to be a common thread through your career?

P.V.: Sharing my GHC experience at the first UR Women in Computing event was definitely a stepping stone on my path towards mentoring and advocating for women in computing. I’m definitely not a natural when it comes to speaking in front of groups, so preparing to give a talk about a topic I had just become passionate about was quite a challenge for me. But, being able to do it in front of a safe and small group helped me grow a lot from that point, and I’m much more comfortable now, although I’m still not a natural. One of the things I learned

that I would complain about was that the food and dining experience in 2007 was a lot better.

Though the size changed, the spirit of the conference felt the same. A majority of the women there related to each other’s experiences being the only woman or one of the very few women in their class/team. GHC showed us that we are not alone, and that many other women are going through the same obstacles in the tech world. Every time I go, I’m blown away by having so many technical women in one place. The comradery was so natural because the

early on from attending these women-focused tech events is that a lot of people go through imposter syndrome—and that what holds a person back isn’t their ability to execute, it’s their own lack of confidence in putting themselves out there for fear of failing and looking like an “fraud” who shouldn’t have been there in the first place. Knowing that and recognizing that there are others around me who feel like they don’t deserve the wonderful successes they’ve earned motivates me to help them build up their self-confidence and, as a result, helps me grow my own.



Ed.: You've written some applications for Sesame Street. What are the apps that you've done, and what do they teach children? Are there any problem-solving or subtle programming concepts in the designs? How does writing applications for children differ from other work you have done?

P.V.: Besides Sesame Street, I worked on an app for NASA JPL that teaches kids about Mars and gives updates and pictures on the latest discoveries from the Curiosity rover. I've also built several business and consumer-facing apps, websites, and services for enterprises, nonprofits, start-ups, and government. What I love most is working on educational apps for children. They are the most satisfying products to develop, in my experience, because I know that their use is helping the next generation learn and grow.

Ed.: I see you are a regular contributor to GitHub. What kind of code do you contribute? How is this a useful platform for you?

P.V.: Github is recognized by a lot of developers as the home for open-source projects. It's a great tool for collaborating on technical projects but also for showcasing one's work. Many people use Github to determine if an open-source project is the right tool to use in their own projects by looking at how popular and active its Github repository is. Contributors to Github projects use it to help advance features or fix bugs for projects that they have an interest in, while others contribute to Github projects as a way to show samples of their technical abilities.

For me, I use Github to find the right third-party tool for my own projects, host code samples for tutorials, and also to collaborate on projects for the organizations that I am a part of. Sometimes my contributions go to private repositories for clients, and sometimes they go to public ones for the communities that I volunteer with—like Women Who Code, Women Who Code DC, Tech Ed Spotlight, and Codettes.NET. I usually advise beginners and those who are looking for a new job in tech to contribute to Github projects because it's a great way for recruiters to find samples of their abilities, but I want to emphasize that they do not have to do this in order to be an attractive candidate.

There's been a trend towards thinking that the "best" developers are passionate and are the ones who think about and work on code all the time—after their work hours and on the

weekends. Although I can say this is something I do occasionally (because I do enjoy it), it is an endeavor to make the time for it. This is not something that lends itself to a healthy work-life balance for most people, and if the tech world wants to be known as an industry that cares about such things, I would want to change how much we emphasize "passion" towards working on and talking about code all the time. There are a lot of developers who would be a great fit with many companies but are probably overlooked because they would rather go home to take care of their families or give their time to charity than be evangelizing tech every weekend.

I call attention to this not to discredit the good that comes with contributing to open-source projects or say that "passion" for tech is a bad thing to have but just point out that companies and recruiters shouldn't only be looking for candidates who "check all the boxes" for a "rock star" developer. Doing so has led to the lack of diversity we have in tech today.

Ed.: As director of the DC Chapter of Women Who Code, what positive impact have you seen with this organization on the tech environment in the Washington region? What type of events do you sponsor? What are the best-attended events?

P.V.: The DC Chapter of Women Who Code has been incredibly successful in the region because of its strong community and consistent activities. We have over 3,700 members in our local Meetup group and also have a very active online Slack community—with over 1,000 members discussing topics in tech, careers, commuting, and life with each other every day. We regularly host five events listed on Meetup each week, targeting a specific area of tech—front-end, algorithms, Java/Android, Ruby, and Python—while we also host bigger one-off events at least once a month. The biggest event so far has been our two-year anniversary hackathon, which we held over two days and had almost a hundred women participate in coding and learning from one another.

Ed.: You are listed in so many places as a mentor and role model for women in technology, i.e., DC FemTech, Women Who Code DC, and FabFems. Do these programs offer active outreach events for K–12 grades to encourage them to explore STEM fields? Have you been contacted by young people as a result of being featured on these websites?

FabFems is a program meant to connect K–12 students with real-world professional role models, but I have not been contacted through them yet. A program that I have been engaged with involving sixth through twelfth-grade students is Girls Who Code. I was a volunteer teacher with their DC program for an after-school club at a local DC public charter school. This was one of the most fulfilling experiences in my career because I got to share in the wonder and excitement the kids had when writing their first program and seeing it run.

Ed.: You were invited to participate in the White House TechJam during CS Ed Week this past December. How were you selected to participate? What did that gathering accomplish? Do you think there will be any concrete results from this exercise?

P.V.: Because of my involvement on the leadership team of Women Who Code DC, I've had the opportunity to be a part of some really exciting events. In January, I got to attend the opening bell ceremony for Women Who Code at the NYSE. Last December I had the opportunity to participate in the White House Computer Science Tech Jam. There were over 70 developers, students, and educators from all over the country who came together to generate ideas for imaginative and innovative tools to bring CS education to K–6th-grade classrooms. My team came up with a project called Tech Ed Spotlight, which we have continued to work on since then. It is going to be a platform for educators and the community to share their stories related to implementing some level of CS education in the classroom. We've grown the team since then to include a few students from the high school and a few women who joined the project when I brought it to the Women Who Code DC two-year anniversary hackathon.

Ed.: How can our alumni get more involved in STEM outreach? How much time does this take from your personal time?

P.V.: Besides the organizations that I've been a part of (Women Who Code, Girls Who Code, and Rails Girls), there are many others with similar goals that are always looking for volunteers and mentors, such as CODE2040, Black Girls Code, PyLadies, and Girl Develop It. There are many more than this, and more are always popping up, including a new one I've just started. I created a new community to fill a void I've found in my tech career called Codettes.NET—a group to connect women developers who work with C# and the .NET stack—with the



Left: Pamela Vong at her Women Who Code informational display
Right: Attendees and students at the White House Computer Science (CS) Tech Jam

eventual goal of hosting a workshop to teach beginners a crash course on .NET development (similar to what Rails Girls does with their Ruby on Rails workshop). I'm hoping this group will help support the women who currently work in this tech stack and bring more diversity into it by being welcoming and by providing resources and mentoring for beginners.

The time one spends volunteering varies from person to person. If someone asked me if I would be willing to pick up another side project or volunteer opportunity, I really should say "no" even if I wanted to do it. Unfortunately (or fortunately depending on how one looks at it), I have very little free personal time because I keep myself very busy by working towards my goals of changing the tech world for the better. I like to think that if I work extra hard towards these goals now, I won't have regrets about not living up to my full potential to try to make a difference later. I know a lot of people with kids these days, and I hear about and have known for a while about how much time will revolve around one's own children once they are born. Of course, I think about this because I am a woman, just married, and at that age when many people would expect me to have children; so I reflect a lot on how much time it would take to go through such an experience. Many of my coworkers and friends are working parents who are able to stay actively involved in the community. I do not know if I would be capable of keeping up the same level of involvement if I were in their shoes. So, I do not take for granted the time I have available now as a young, educated, healthy, and financially secure woman, because there might not be a better time for me to work towards my goals at full force later.

Ed.: You have two other URCS alumni from 2007 working with you at InfernoRed Technologies: Brian Meeker and Ryan Korsak. Why is this company a good fit for URCS alumni? Do you get together and reminisce about your college days? What part of our curriculum prepared you the most for your current job?

P.V.: InfernoRed Technology is the best company I've ever worked for, and I bet Brian and Ryan would agree with me. As a company, they give me an enormous amount of freedom and respect. I get to work on some of the coolest projects for some really impressive clients while using some very exciting, cutting-edge technologies. They've not only given me the oppor-

tunity to challenge myself and helped me grow in my technical and leadership abilities but have also been incredibly supportive of my involvement with the women in tech community. A lot of us at the company are very involved with the greater tech communities and are constantly learning new things for fun. Everyone is also incredibly smart and pleasant to work with, which is why I can't imagine a better company to be a part of.

I've reminisced with Brian and Ryan a few times about how great Professor Scott's class was on Computer Languages. Getting the exposure to a lot of different languages from different programming paradigms helped me become a very fast learner of any new technology I've had to work with in my career. The best thing I learned from my time at UofR was to not be afraid to try and learn new things. A career in tech means I'm constantly learning and adapting because things change so quickly in this field, so I'm glad UofR prepared me for that.

Ed.: Not everyone gets to hike to Machu Picchu like you did last fall. Was this on your bucket list? What did you learn about yourself on this amazing trip?

P.V.: It was an incredible once-in-a-lifetime trip! It's off my bucket list now, and I would highly recommend the four-day/three-night hike up the Inca Trail as the best way to experience Machu Picchu. I was extremely proud when I made it past "Dead Woman's Pass" because that was the hardest physical challenge I've ever endured, and I'm glad I didn't die!

Ed.: If you could write an app or code that would have a life-changing impact on the world, what would you want it to do?

P.V.: Trying to change the tech world is my focus right now, and I'm hopeful that this will go somewhere, so if I could write an app towards accomplishing this, it would open the door for more women to join the industry and break the stereotypes for computer programmers.

Ed.: As an introverted person, what motivates you to spend so much time helping others discover the wonders of technology? Have you made a commitment to be part of the solution to the lack of diversity in technology?

P.V.: There are many benefits to increasing diversity in tech because studies have shown

that gender-diverse teams make better decisions. This has important social and economic implications because having diversity, which leads to better decisions, means companies can build better products that are designed for more people. And better products that are desirable to more people means that our economy gets better, and we are better situated to compete globally.

Macro reasons aside, what personally motivates me to overcome some of my introverted tendencies is knowing how much others could benefit from a career or education in technology like I did. Growing up in a lower-middle-class family as a first-generation Thai-American has influenced many of the financial decisions I've made early on in my life, including what I pursued in college and in my career. Having my CS degree helped me earn greater than 70 percent* more in salary coming straight out of college than my peers with other undergraduate degrees. Tech has been the fastest-growing industry for years and is expected to continue to grow and provide lots of job opportunities. On average, being in this field earns a person a salary that is 30 percent* higher than any other industry, while the gender wage gap is also smaller than other industries. (The gap is still there of course, which is partly because there aren't as many women who are reaching the top—another issue that motivates me to volunteer my efforts with the Women in Tech communities). In summary, tech is a great industry to be in to change the world, but it's also beneficial for those who want to achieve a higher standard of living.

Ed.: What are your hobbies or fun things to do in your downtime?

P.V.: My spouse and I cook together a lot and also like trying a lot of new/exciting places to eat when we go out. And since our Machu Picchu trip, I've discovered that I prefer active/adventurous vacations, so for our honeymoon, we're traveling to northern Italy on a five-day biking trip. But I also enjoy having some downtime watching sports or streaming shows like Game of Thrones at home with my little family unit, consisting of my spouse (Jason), my rabbit (Boo Radley), and my dog (Casablanca, a.k.a. Cassie).

*Numbers are from similar talk I gave in 2012 at the Rails Girls DC Workshop. The actual percentages may be different today.