It Started with a Blackout

Fifteen years ago, in 2003, a power disturbance at one utility company started an accidental chain reaction that affected other utilities. Like falling dominos, roughly 250 electric power plants eventually tripped offline or shut down. The resulting electric outage cast darkness upon a massive portion of the northeast sector of North America because of the interconnected nature of all of the electric grids. People were suddenly deprived of the electricity that was so essential to many modern life activities.

Halfway around the world, a boy named Payman Dehghanian learned about the extensive impact to human life caused by this huge disruption in electric power. He looks back today and recalls, “In 2003, I saw the news about how this massive electrical power blackout greatly affected the lives of over 50 million people in the northeastern United States and southern Canada.” He saw that many people suffered hardships during the electric power outage, and some even lost their lives because of their critical reliance on electrical power for medical needs such as life support. “So when I entered college in 2005,” Dehghanian continues, “that event motivated and inspired me to study electrical engineering, and, especially, the field of electric power systems engineering and grid reliability.”

Formal Education
Dehghanian earned his B.S. degree in 2009 after four years of study at the University of Tehran, Iran. He went on to earn his M.S. degree in 2011 in the field of power systems engineering at the Sharif University of Technology in Tehran. During 2012–2017, he attended Texas A&M University (TAMU), College Station, and studied for his Ph.D. in power systems engineering. After earning his Ph.D. degree in 2017, Dehghanian received an appointment as an assistant professor at George Washington University in Washington, D.C.

Attractions of Industry and Work
Dehghanian explains that it was always his intention to become a teacher, and that is where he has found his voice and passion. “From my teaching experiences in the classroom environment and the various presentations I gave for my colleagues locally as well as nationwide at conferences/meetings, I have gradually learned how difficult and, at the same time, how beautiful and rewarding is the art of teaching.” As with any skill or craft, Dehghanian is constantly improving with practice. “That I can select the most
effective way to explain some complex subject or topic that has taken me a long time and effort to understand makes me feel really grateful toward my own teachers,” he says.

He loves his job as an assistant professor because he knows he can help students build confidence in their relevant talents. He also enjoys fostering new generations of researchers, helping them find their voices for not just their future contributions but also the organizations to which they will belong. Dehghanian says, “For me, this research and teaching position is actually a vehicle to strengthen my fundamental connections with other lives,” a connection that can be lifelong, he asserts.

A Typical Workday
His daily life as an assistant professor is similar to that of other professors, which includes teaching, conducting research, answering e-mails, and attending meetings. “Every day, when I wake up, I smile knowing that I will do what I am passionate about and love the most. I go to work each day to do research and teach not only for the good of myself but also for the good of the community and my students.” This passion is one of Dehghanian’s strongest motivators and the reason why he does not want to leave academia. He says, “Obviously, this great feeling originated mainly from the people I am working with and the enjoyment that I have derived from the supportive institute I am working in, the Department of Electrical and Computer Engineering at the George Washington University.”

Involvement in and Benefits of the IEEE Industry Applications Society
Dehghanian recalls that he joined the IEEE and the IEEE Industry Applications Society (IAS) in 2011, while he was a student at TAMU, and he has been an active contributing member ever since. “The IAS program for students is very strong,” he explains. “Worldwide, there is a big family of students and young professionals in the IAS. Furthermore, the IAS encourages and supports student-led technical conferences globally.” One example is the IEEE Texas Power and Energy Conference (TPEC), which is organized and led by students but open to participation by anyone. In fact, during TPEC 2017, Dehghanian led a team of student organizers and leaders who came together at TAMU and made TPEC a success, the first IEEE conference of its kind in the state of Texas.

Aha! Realizations in His Career Journey
Dehghanian explains that he had small “aha!” moments almost daily when in school, both in Iran and in the United States, and they have lasted long enough to continue through his academic career. He says, “I truly believe that is what lets me realize how much, and, yet, how little I know about electrical power systems engineering. Every engineering challenge I face results in an outcome when I eventually figure out my design solution, and that is when I say aha!” He explains that this was likely the reason for his decision to pursue an engineering degree: he enjoys figuring out how things work, finding solutions when things do not, and coming up with ways to explain and demonstrate the concepts to others.

“My latest aha! moment,” he said, “occurred when I joined George Washington University, started teaching, and was faced with an abundance of technical questions asked by my students.” Thanks to all of his former advisors and colleagues, he realized that TAMU had amply prepared him for solving a large variety of problems, both trivial and difficult, by giving him the scientific and engineering insights and skills necessary to tackle them.

Leisure Time
For fun and relaxation, Dehghanian sometimes plays soccer on weekends. He explores the web to see what’s going on around the world in current events, politics, academia, and sports. He uses LinkedIn for professional networking and Facebook as his favorite social media tool. He admits, with a smile, that he jumps online whenever he needs to recharge his “social battery,” because his friends are located all across the globe. Above all, he loves to travel, attend conferences, and interact with people.

Advice for Young Professionals
Dehghanian is happy to share his philosophy: “We young professionals need to believe in ourselves and have a goal or dream for pursuing.” He affirms that it is necessary to do the hard work, which is even more important than simply gaining knowledge. “Through service to our department and people,” he says, “we actually define and practice the kind of person we want to be. And that’s the one choice we always have in life, in each moment, each decision, or in every new encounter.”

Conclusions
Dehghanian has found his passion and place in the world. He is well positioned to mentor and encourage future generations of electrical engineers as an educator and researcher in the academic world. Furthermore, as an active, contributing member of IAS, he is showing by example how to serve and give back to one’s own professional community.