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29 October 2021

CSU33012

Biography of Assistant Professor Dr. Ivana Dusparic

Dr. Ivana Dusparic grew up in Sarajevo Bosnia with a passion for maths and the source of her inspiration was those who helped her learn. Starting in primary school, Ivana understood concepts quickly and assisted other students in class when she could see her peers were not understanding as their teacher would repeatedly explain the concepts in the same way. Ivana identified the different ways content could be explained to help her peers process and understand. Even though she was only in primary school, parents of her peers would bring their children to her for explanations on the concepts they were learning. This experience helped Ivana recognize her talent for creating creative ways to explain concepts, recognizing very early that everyone's brain does not work the same.

As Ivana grew up, her neighbor saw her potential and tutored her in more interesting mathematical concepts that were not being taught in school. While she often struggled to see the applications of maths, about halfway through high school she had a key experience that would make it clear what she wanted to do with her passion for maths. Ivana was introduced to computing and its connection to maths was obvious to her. She then knew for certain what she wanted to do. She was guided by a brilliant computing teacher who taught her how to program. As she continued to grow intellectually her mentors changed over time, but she always had someone to inspire and mentor her as she continued her education.

Ivana was raised speaking Bosnian, learning English through school, movies, and music. As expected, different accents took longer to understand but she has been fluent for the majority of her life. At nineteen years old she made the decision to move by herself to the United States for her undergraduate degree in Pennsylvania. She had no prior experience working in different countries or cultures so the transition was difficult. Being from an obscure country, it wasn't easy for the other students to relate to her. However, the longer she stayed the more students she met and the more they were willing to share their diverse

backgrounds with each other. This experience and her maturation in college prepared her well for the rest of her life.

Ivana entered the workforce after college. She quickly found pride in her programming work when she saw her code being used by customers in her first month. Her work no longer was just academic, it was being actively used and appreciated. Even with as much joy as she found in her work,, Ivanahe learned that not everyone found joy in what they do or had the best intentions. When interacting with a team, she needed to learn political skills because not everyone wanted to share their knowledge or work toward the same goal.

Ivana's most exciting project was her during her PhD studies at Trinity College as she embraced the freedom to take initiative and design with minimal supervision. She created a system that used artificial intelligence (AI) to teach a machine learning algorithm how to best control traffic lights. Using AI for the first time inspired her as she observed how the algorithms she wrote made the traffic lights appear intelligent. Her method is not yet implemented in the real world because of the risk of deploying the algorithms on a large scale. Nevertheless, she is ready to deploy her algorithms with the right city willing to conduct a trial to refine her models..

Ivana is currently using her talent of explanation as an assistant professor at Trinity College and she was recently granted tenure. This allows her to have immense academic freedom and a safety net for experimenting. She can also now take sabbaticals to research in her field anywhere around the world. Though she lived in Ireland over the last nineteen years, she believes the world is too big to stay in one place. She hopes to give her children cultural experiences living in different places, just as she has experienced.

Ivana works with PhD students one-on-one over their four year program and is excited that her first PhD students will graduate this year. Her students come from all different backgrounds and she helps facilitate sharing cultures within the group while they

study. Ivana is also teaching undergraduates and she enjoys the impact on their learning. She connects with them and gives them advice when they need it, even when it is not as direct a setting as her one-on-one sessions with PhD students. Ivana finds teaching so rewarding because she can see the love and effort she puts in has an impact on students. The connection she provides to her students makes it clear she will never just recite information for a salary.

Reflecting on her life, Ivana doesn't like to dwell on the past. She prefers to try out new things than repeat what she has done, even if she has enjoyed it. This is a part of her hunger for learning. She is not unhappy about how anything has turned out and is proud of the work she has done. In the future, she is looking towards becoming an associate professor, and then a full professor. To help her students in their futures she advises that if they don't know where they're going, not to worry because they will figure it out, just as she did. She also advises students to be strategic on what will help get them there. There are lots of ways to achieve the same goal. Focus on what will help achieve goals, but always make sure to enjoy the journey. Speaking with Ivana, her passion for learning, teaching, and understanding is obvious and she will undoubtedly continue to inspire people in every aspect of her life.