DIVERSITY STATEMENT
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As a Latino in a primarily white institution and as a man in a predominantly male field, I have experienced both ends of diversity. But more importantly, I have witnessed its power: diversity is a source of creativity and innovation. Diversity enriches communities with experiences, abilities, skills and points of view. I have seen students explain and embrace fantastic mathematical tricks from the farthest places. I have seen researchers combine brilliant ideas inspired by a plethora of backgrounds. As a member of a community, and especially as a member of a university, I do not only believe in diversity, I celebrate it.

As a teacher at the University of Wisconsin-Madison I was fortunate to take — and then give — a series of workshops focused on diversity. This gave me good insight and strategies as to how to be more inclusive in a classroom. For example, when forming teams, it has helped me transform potentially troublesome situations into thriving opportunities. Ironically, discrimination comes in many colors: race, gender, religion or income. Teachers are often faced with one more: high variability in prior knowledge. For example, math courses can be especially challenging, as the lessons that each student has taken vary widely. Teachers should acknowledge and address this variability, both welcoming and challenging all students.

Fortunately, I have plenty of experience in this. The first time I TA’d an introductory signals and systems course, I saw a very polarized class. Half the class was thriving; the other half was in absolute despair. Were half of the students ten times more clever? More determined? Of course not. In fact, struggling students were just as bright, and perhaps even more hardworking, spending more time at my office hours, working on homework, studying for tests. Soon enough I found an almost perfect correlation: thriving students had had high-school exposure to programming, while struggling students had not. Of course, with limited time, one cannot hope to teach a college-level topic from scratch. However, once the problem is identified, one can direct efforts more effectively. For example, in this case we directed students to very effective basic programming tutorials, and the class soon had a much more homogeneous performance.

I had similar experiences when teaching Math and Physics to adult students who wanted to finish high-school, and even with graduate students. It is becoming more and more common for all fields — engineering, computer science, statistics, math, biology — to take an interest in machine learning. There is much to gain from diversity of this sort. Biologists come to data scientists for help with the management and analysis of their experiments while computer scientists develop ideas inspired in biology. As a teacher, it is important to design interdisciplinary courses that promote inclusion. Courses that are welcoming to out-of-area students, yet challenging for in-area students. This can be achieved with exercises of variable difficulty and assigning projects to be worked in interdisciplinary groups.

Of course, these are not the only challenges that a teacher may face. I thus like to keep an eye out, leave my door open to students, try to meet them outside of the classroom, be aware of any difficulties that may arise, and keep my ears open to suggestions. Students often have fascinating ideas to make classes better. After all, my goal is to promote diversity, but also to harvest its benefits.

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