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Re: conferences and journals in computer science

I am writing in regard to the merits of conference publication in the field of computer science. In brief: **in computer science, papers in peer-reviewed conferences are accepted as high-quality scholarly articles**. In fact, conference papers are arguably *more* prestigious than journal publications: oftentimes, conferences have higher standards and lower acceptance rates. This is the opposite of most other scientific fields. Therefore, when evaluating a computer scientist, it would be incorrect to disregard conference publications, even though that would be correct for other scientific fields such as biology and chemistry. A computer scientist's conference publications are the equivalent of journal publications in other fields.

This fact is widely known by computer scientists. It is clearly laid out in CRA's Best Practices Memo, "Evaluating Computer Scientists and Engineers For Promotion and Tenure". The same point is made in the article "Research Evaluation for Computer Science" in *Communications of the ACM* (April 2009). ACM and CRA are the premier scientific organizations for computer science.

As a result, good researchers in computer science are content to publish in conferences. When evaluating a computer scientist for hiring, tenure, etc., a proper evaluation should be based primarily on peer-reviewed conference publications. Sadly, some citation databases used in other scientific fields omit computer science conferences, so these databases are of no value when evaluating a computer scientist: you need to understand computer science, not just look up a number in a citation database that is tuned to another field.

Naturally, not all conferences are equal. The best journals are better than the worst conferences. Great articles, and poor ones, appear in both conferences and journals. Nonetheless, the general rule holds: peer-reviewed conference publications are the most important and relevant measure of a computer scientist's accomplishments. As a rule, the best conferences are those organized by ACM; you can also see one conference ranking at Microsoft Academic Search, <http://academic.research.microsoft.com/>, or a joint ranking of conferences and journals in my field at https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=eng_software&systems.

Computer science is a deep and compelling scientific field that has contributed greatly to our nation's economy. I urge USCIS to use the standard accepted evaluation criteria when judging computer scientists.

If you have any additional questions, feel free to contact me by email at mernst@uw.edu.

Sincerely,

Michael D. Ernst
Professor

About the author: Michael D. Ernst is a Professor at the University of Washington. He was previously a researcher at Microsoft Research and a tenured professor at MIT. He is the recipient of numerous awards, including the inaugural IBM John Backus Award in 2009, a ACM SIGSOFT Impact Paper Award in 2013, and 9 best paper awards. He is an ACM Fellow. In 2013, Microsoft Academic Search ranked him 2nd among software engineering researchers worldwide, for work in the previous 10 years. More information is available at his webpage:

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