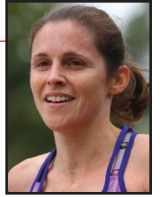




Profile: Rebecca Wasyk

**Sr. Technology Analyst, Automation and Research Computing,
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BS, Mathematics, James Madison University; MA, Mathematics, Brandeis University; PhD, Applied Mathematics, Worcester Polytechnic Institute

EARLY INFLUENCES

Was there a pivotal moment/experience/ influential person that led you in this direction? Any memorable courses or experiences that made a difference in directing you to your career? Any obstacles you needed to overcome?

I've always enjoyed and was interested in mathematics. When I was young, in elementary school, I enjoyed the certainty of knowing that there was a correct answer. As I progressed in college and graduate school, I enjoyed the process more—thinking about difficult problems, pursuing different routes (some successful, some not), and I eventually came to really enjoy applied mathematics. My REU and internship experiences are what really made me determined that I wanted to pursue a non-academic career. I wanted to be able to work on real world problems, where I could use my math knowledge, but where changing subject matter would constantly challenge me to learn new things, and I could also use my computer skills to help develop useful algorithms.

CAREER/CAREER PATH

Describe your current position and briefly, the path you took to get there.

In my current position, I work with research economists to help them design more efficient algorithms and code. I use my knowledge of different programming languages, parallelization techniques, and numerical algorithms to help suggest solutions to various problems.

What is a typical day at work for you? Please list your job responsibilities. What are you responsible for?

In a typical day, I switch modes frequently. I have some long term projects that I am involved with on a nearly daily basis, but I also often field questions that have a smaller scope, and a shorter turn around time.

How many hours per day or week do you typically work? Do you have flexibility that allows a good life/work balance?

A relatively low stress level, telework options, and a standard 40-hour work week provide me with the flexibility that I desire to maintain a good balance between my work and my personal life.

CAREER EXPECTATIONS FOR YOUR FIELD/POSITION

How/why are applied mathematics and/or computational science important to your industry? How are they used?

I have only been in my current position for a short term, but prior to this, I worked at a consulting firm, where I was also able to use my math and computer skills. In all of the work I have done, I think that applied mathematics and computational science have been crucial. I believe that mathematics provides much of the framework and language for converting difficult, application driven problems into understandable, solvable problems. In many cases, software was the desired solution, and I have had to draw upon my knowledge of numerical methods to design algorithms that can be used on real data and operate efficiently enough to be run in real time.

ADVICE

If you could advise someone currently pursuing the same degree or profession, what would you say? What are some steps you would recommend to students, or to those in their early careers, that perhaps you wish you had taken earlier? Are there things you would have done differently?

I think it is important to try a couple of internships, to determine if working outside of academia is something you would enjoy and to understand a little about the diversity of experiences you will have at different workplaces.

Any specific supplementary skills or training you can name that a person pursuing this profession should acquire?

Certainly in my career, and I believe in many others for applied mathematicians, a willingness and aptitude for writing software is essential, so I suggest taking computer science classes or learning programming independently. The more comfortable you are with writing programs, the more of your time you are able to spend on understanding the problem at hand, and experimenting with possible solutions. In a similar vein, being creative and effective at looking at data in different ways can be extremely valuable, so I don't think visualization techniques should be overlooked.

SALARY

For 2015, can you speculate about the salary range of starting, mid-level and /or senior positions in your specific field?

There is a lot of variation in salaries, depending on the company/government agency and location.