

## FINANCIAL ALGORITHMS RESEARCHER

D-Wave is looking for exceptionally motivated people who love to see the impact of their work, who will do whatever it takes to ensure success of the company, and who want to be a part of something special.

D-Wave is working to radically change what it is possible with computers. Our mission is to integrate new discoveries in physics and computer science into breakthrough approaches to computation. We are committed to commercializing quantum computers. The company's flagship product, the D-Wave One, is built around a novel type of superconducting quantum processor. D-Wave One systems are currently in use by on-line customers and by customers in the field.

The algorithm D-Wave processors enable is called quantum annealing. This quantum algorithm is a recently proposed heuristic that offers dramatic speedups on important classes of optimization and Monte Carlo problems. D-Wave has built the first hardware platform that exploits this quantum speedup to solve many problems faster than will ever be possible with traditional hardware. We are now extending our novel Monte Carlo capability to problems in finance and machine learning.

### Position Description:

D-Wave is seeking a talented researcher with a solid theoretical background in the algorithms of financial mathematics and Monte Carlo methods. At D-Wave you will extend these algorithms to exploit quantum annealing on our hardware. Quantum annealing offers the promise of extremely efficient sampling from complex programmably defined probability distributions defined over discrete variables.

Some specific areas of interest include:

- Decomposition methods which break large problems into smaller or simpler components that can be directly implemented in quantum hardware
- Identification of financial applications bottlenecked by *discrete* probability distributions or by discrete optimization problems

No background in quantum algorithms is required as the successful candidate will work as part of an interdisciplinary team. Publication and academic collaboration are encouraged.

### Required Qualifications:

- Ph.D. in Math, Computer Science, financial engineering, or equivalent experience
- Experience implementing algorithms in C/C++, Matlab, or Python
- Experience in applications of Monte Carlo methods to finance
- Excellent critical thinking, analysis, and problem solving
- Demonstrated creativity in attacking new problems
- Strong organizational and decision making skills
- Excellent written & verbal communication
- Ability to work well in a fast-paced team environment that is focused on priorities and results
- Self-motivated, proactive, flexible and passionate about learning

### Desired Qualifications:

Exceptional candidates will have experience in one or more of the following:

- Up-to-date understanding of the latest approaches in Monte Carlo methods
- Experience in real-world applications of financial algorithms

Interested applicants should send a resume including references to [Jobs@dwavesys.com](mailto:Jobs@dwavesys.com)