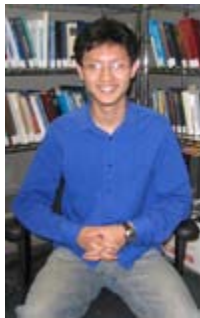


Students At Work

The Natural Sciences and Engineering Research Council of Canada (NSERC) is the national body in Canada that strategically invests in the country's scientific and technological capabilities. To stimulate student interest in research in the natural sciences and engineering, and to encourage graduate studies and research careers, NSERC offers Undergraduate Student Research Awards (USRA).

Xiao Su, a 2nd year Chemical Engineering student at the University of Waterloo, won one of these awards to work at Rocscience this past summer.



I did my summer 2008 co-op term at Rocscience. During my co-op, I was involved with a software project that investigated the implementation of simulated annealing as a new method for searching for critical failure surfaces and factors of safety in *Slide* 5.0. I researched the efficiency of different annealing algorithms from published literature, and successfully implemented the adaptive simulated annealing technique for circular slope surfaces. In addition to improving my programming skills, I had the opportunity to study the theoretical and practical aspects of non-convex optimization, especially the performance of stochastic methods on multi-modal functions. I also learned the principles of soil mechanics and slope stability analysis.

I worked under the excellent supervision of Rocscience's software development manager, Dr. Brent Corkum. By working closely with Dr Corkum and other Rocscience programmers and engineers, I obtained valuable experience in software development and professional programming practice. The co-op term at Rocscience was also a great personal time, as the workplace environment was very friendly and fun.

My work term at Rocscience has strengthened my professional skills and, most importantly, my interest in research. I am confident that the valuable experience gained will help me in my engineering career.