

Rhys Goldstein

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Education & Academic Experience

Carleton University

*MASc, Department of Systems and Computer Engineering,
Ottawa-Carleton Institute for Biomedical Engineering*

Ottawa, ON

2007 – 2009

After 3.5 years in the mining industry, I returned to academia to pursue an interest in biomedical engineering. My research focused on two areas: the dynamic simulation of 3D deformable biological structures such as proteins and membranes, and the design of biological models in general using a modeling formalism called DEVS. My thesis was well received, and I was awarded Carleton's 2009 Master's Level "University Medal for Outstanding Graduate Work". I also traveled to Miami, Calgary, Minneapolis, and Austin to present conference papers.

More information can be found at www.rhysgoldstein.com/Carleton.

University of British Columbia (UBC)

BASc, Engineering Physics Department, Computer Science Option

Vancouver, BC

1998 – 2003

This intense program involved 3 co-op placements and courses up to the 4th year level in physics, mathematics, and computer science. Notable projects included the implementation of interactive 3D electrical field visualization software, and the design of a hybrid sunlight-fluorescent lighting system.

During this time I co-authored a paper, titled "Monte Carlo Simulation of Solar Reflectances for Cloudy Atmospheres," which was published in the Journal of Atmospheric Sciences.

Work Experience

Autodesk Inc

Research Software Developer

Toronto, ON

2009 – Present

Researching building performance simulation, my goal is to provide architects with the decision support software they need to make buildings more sustainable. To date I have contributed a new method for simulating the behavior of occupants in office buildings, a key factor influencing energy use patterns.

My Autodesk Research webpage is www.autodeskresearch.com/people/rhys.

Work Experience – Continued

SJ Geophysics Ltd

R&D Engineer / Geophysical Survey Leader

Vancouver, BC

2003 – 2007

This job had me leading teams of 5 to 7 workers on mineral exploration projects in Tasmania, Oman, Cyprus, and all over North America. After implementing signal processing code, I was the first in the company to perform an entire survey with digital acquisition devices. I later played a central role in the company's transition from analog to digital technology.

Other contributions included 3D modeling tools, mathematical formulas for error analysis, and a modular, object-oriented database application for geophysical data management and processing.

Laser Zentrum Hannover

Co-op Student / Research Assistant / Programmer

Hannover, Germany

May – Aug 2002

Hannover's Laser Research Centre investigates various applications of laser technology. My project was the automatic classification of laser welding faults observed with optical sensors. An application I wrote allowed an engineer to rapidly prepare training data and explore the efficacy of various signal filters. I also designed an algorithm that successfully identified various types of faults.

UBC – Earth & Ocean Sciences Department

Co-op Student / Research Assistant / Programmer

Vancouver, BC

May – Dec 2001

It was during this placement, studying the optical properties of clouds, that I developed a passion for scientific programming. (I later went so far as to design my own programming language, described at www.rhysgoldstein.com.) My main project was the optimization of ray-tracing software for 3D cloud fields. I also wrote one of the earliest open source Python interfaces for HDF scientific data files, and parallel satellite image processing code.

Other Interests

As social chair of Carleton's "Engineering in Medicine and Biology" club, I organized events to bring biomedical students together with professors and engineers. I have worked as a lifeguard and swim instructor, and competed at swimming, waterpolo, triathlon, soccer, dragonboat, and chess. I also enjoy hiking, rock climbing, skiing, and other outdoor activities.