

Paul Liu

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EDUCATION

Bachelor of Science, Honours Mathematics and Physics
University of British Columbia, Vancouver, BC, expected May 2015

SKILLS

Languages: C++, Python, Matlab, Java, Mathematica, Go
Operating Systems: Windows, GNU/Linux

EXPERIENCE

NSERC Idea to Innovation Grant (Spring 2014 - Current)
Imager Lab, UBC

- Working on an OpenGL library for thin skin elastodynamics. Our aim is to model thin skin accurately and swiftly on a conventional GPU. Such work can be applied to simulating human and animal skin, as well as skin-tight clothes. An outline of the approach as well as sample work can be found at <http://www.cs.ubc.ca/research/thinskinelastodynamics/>.

*NSERC Research Assistantship (Summer 2012 - Spring 2013) &
Undergraduate Research Assistantship (Fall 2013 - Spring 2014)*
Scientific Computing Lab, UBC

- Working with Prof. Chen Greif (UBC), I created a C++ software package for performing incomplete factorizations of symmetric indefinite matrices. Currently we are trying to extend the package to handle skew-symmetric matrices. The complete source code, as well as extensive documentation can be found at <https://github.com/inutard/matrix-factor>.

Software Engineering Intern (Summer 2013)
Google, Los Angeles

- Created a stochastic model for proposed ads by potential advertisers. Purpose of the model was to predict an ad's performance (cost, clicks, etc.) before the ad is released to the public. Found evidence that the model would be feasible in terms of computation as well as accurate. Additionally created pipelines to automatically validate accuracy of model.

ScienceOne Teaching Assistant (Fall 2012 - Spring 2013)
ScienceOne Programme, UBC

- Was the mathematics TA for ScienceOne. Responsibilities include grading homeworks and holding review sessions every week.

Science One Module Design (Summer 2012)
Mathematics Department, UBC

- Working with Prof. Fok-Shuen Leung (UBC), I was part of a group of students that helped create a new math curriculum for Science One. Science One is a rigorous first year programme that combines Math, Physics, Chemistry, and Biology into a single yearlong course.

CONTESTS

ACM-ICPC Programming Contest (2014) - 4th in Pacific NW Region
ACM-ICPC Programming Contest World Finals (2013) - 76th globally
U. Chicago Invitational Programming Contest (2013) - Bronze Medal
International University Physics Competition (2012) - Bronze Medal
ACM-ICPC Programming Contest (2012) - 3rd in Pacific NW Region
ACM-ICPC Programming Contest (2011) - 17th in Pacific NW Region
Google AI Contest (2011) - 7th in Canada
IT-BHU Codefest Mathmania Contest (2010) - Top 15

HONOURS

John Collison Memorial Scholarship (2014)
Reginald Palliser-Wilson Scholarship (2014)
Dharma Master Chuk Mor Memorial Scholarship (2014)
Dorothy Gladys Studer Memorial Scholarship (2013)
Volkoff Scholarship (2013)
Rick Sample Memorial Scholarship (2013)
W.H. MacInnes Scholarship (2012) - Highest standing in Math/Physics
NSERC USRA Research Award (2012)
Trek Excellence Scholarship (2011, 2012, 2013) - Top 5% in year of study
President's Entrance Scholarship (2010)
BC Provincial Examination Scholarship (2010) - Top 20 in Province

EXTRA- CURRICULAR

Computer Science

- UBC ACM Team (2011 - Present)

Mathematics

- UBC Math Circle Organizer (2012 - Present)