

# EGOR LARIONOV

phone : (647) 923-1449

email : egor | dot | larionov | at | gmail | dot | com

web : egorlarionov.com

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## EDUCATION

UNIVERSITY OF BRITISH COLUMBIA, Vancouver, BC, Canada

Ph.D. Computer Science

*present*

**Supervisor:** Dinesh Pai

UNIVERSITY OF WATERLOO, Waterloo, ON, Canada

M.Math. Computer Science (Computer Graphics)

April 2016

**Supervisor:** Christopher Batty

**Thesis:** The Mimetic Approach to Incompressible Surface Tension Flows

B.Math. Pure Mathematics and Computer Science (co-op) (Physics Minor)

April 2013

**Math** - Real & Complex Analysis • Measure & Integration • Group Theory • Polynomials, Rings & Finite Fields • Differential Geometry • Differential Equations • Functional Analysis

**CS** - Algorithms • Computational Mathematics • Operating Systems • Concurrency • Logic • Quantum Info. Processing • Theory of Computation

**Physics** - Classical & Statistical Mechanics • Electricity & Magnetism • Thermodynamics • Quantum

**TA** - MATH 239 Intro. to Combinatorics • MATH 138 Calc. 2 • MATH 235 Lin. Alg. 2 • CS 488 Computer Graphics

## EMPLOYMENT

VITAL MECHANICS RESEARCH INC.

March 2017 - *present*

*R&D Engineer*

SIDE EFFECTS SOFTWARE INC.

May 2014 - December 2016

*3D Software Developer*

Developed sophisticated high-level tetrahedralization techniques

Developed a 3D mesh repair method based on Binary Space Partitioning, to remove self-intersections and enforce water-tight geometry, on arbitrary inputs

SIDE EFFECTS SOFTWARE INC.

May 2013 - Aug. 2013

*3D Software Developer*

Analysed and integrated tetrahedralization techniques

Developed repairing methods for 3D polyhedral surfaces

UNIVERSITY OF WATERLOO

May 2012 - Aug. 2012

*Undergraduate Research Assistant*

Research on the continuity of the quantum capacity with two-way classical assistance and/or with back classical assistance, including an analysis of quantum channel spaces and their enclosing spaces.

SIDE EFFECTS SOFTWARE INC.

May 2011 - Aug. 2011

*3D Software Developer*

Developed algorithms to manipulate 3D polyhedral surfaces

Assisted in the development of a new system wide geometry library

Optimized and upgraded the rigid body dynamics solver

*Co-op evaluation: Excellent*

SENECA COLLEGE OF APPLIED ARTS & TECHNOLOGY

Sept. 2010 - Dec. 2010

*Mathematics Tutor*

Worked with young and mature students from Engineering, Accounting, Optometry, Finance, etc.  
 Planned and hosted mathematics workshops as well as one-on-one tutoring

*Co-op evaluation: Outstanding*

XTREME LABS INC.

2009 & 2010 (Total 8 months)

*Sr. Software Developer*

Developed applications for iPhone, BlackBerry and Google Android

Coordinated multiple projects across various platforms

Worked overtime to develop and deliver extra projects

Conducted technical research and gave numerous talks

*Co-op evaluation: Outstanding*

## SUMMARY OF QUALIFICATIONS

Research experience in fluid simulation and computational geometry

Genuine interest in mathematics cultivated by personal research, class work and peer communication

Highly adaptable to new research topics and work environments

Proficient with C/C++, Python, and shell scripting languages

Significant experience with Maple, MATLAB and Julia mathematical languages

Developed applications for iPhone, BlackBerry, and Google Android mobile platforms

Fluent in English and Russian

## AWARDS AND SCHOLARSHIPS

David R. Cheriton Graduate Scholarship	2013 - 2016
Work Term Report Award from Research In Motion	2009 - 2010
University of Waterloo Merit Scholarship	2007 - 2008

## CONFERENCES AND WORKSHOPS ATTENDED

SIGGRAPH, Anaheim, CA, USA	Jul. 24 - 28, 2016
SIGGRAPH, Vancouver, ON, Canada	Aug. 10 - 14, 2014
DIGIPRO, Vancouver, ON, Canada	Aug. 9, 2014
CANADIAN CONFERENCE ON COMPUTATIONAL GEOMETRY, Toronto, ON, Canada	Aug. 10 - 12, 2011

## MISCELLANEOUS INTERESTS

Rock climbing, mountain biking, and tennis

Jazz/Blues/Rock playing on electric guitar and bass