# ALEXANDR MURASHKIN

University of Waterloo, MMath in Computer Science Candidate

*Homepage and Projects:* www.student.cs.uwaterloo.ca/~amurashk/

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## PROFESSIONAL KNOWLEDGE AND SKILLS

- Web-based development — Javascript, JQuery, Node.JS, Angular.JS, Zend, ASP.NET, PHP
- Desktop application development — Java, Maven, Microsoft Visual C#, WPF, Delphi
- Operating- and real-time system design — C, micro-kernel design, ARM and Intel assembly languages
- Mobile application development — Android, Windows Phone 7, SQLite
- Database design and data programming — SQL, Hibernate, ADO.NET Entity Framework
- Game development — OpenGL, Unity 3D, Cinema 4D, Physics/Math skills

## HIGHER EDUCATION

- **MMath in Computer Science** at University of Waterloo, ON, Canada (**2012 – Aug 2014**)
  Average: 93 / 100

- **BSc in Computer Systems and Software** at Kazakh-British Technical University, Kazakhstan (**2008 – 2012)**
  Average: 3.97 / 4.00

## WORK EXPERIENCE

**Graduate Research Assistant** at the University of Waterloo **(Sept 2012 – Aug 2014)**

1. Designed Clafer Web Tools – web-based tools for domain modeling, instantiation, visualization and exploration of variability models *(Javascript, Node.JS)*
   - Tools are successfully used by the research lab and students
   - Two ACM publications presented at Software Product Line Conference 2013, Tokyo, Japan
2. Designed a real-time operating system kernel and a multi-thread application on top of it *(C, Assembly)*
   - Two trains moved around the track with successful collision avoidance
   - Self-restore after hardware controller's faults or reboot
3. Working on early design exploration of electronic/electric architectures, NECSIS project with General Motors
4. Exploring optimization of safety level allocation in safety-critical components of automotive systems

**Research Intern** at Pratt & Whitney Canada, Longueuil, QC, Canada (**Oct 2013 – Dec 2013)**

1. Investigated architectural patterns for modeling system and control software variability in product lines
2. Successfully designed and demonstrated SysML models of engine parts

**BSc Student** at Kazakh-British Technical University, Almaty, Kazakhstan **(Sept 2008 – May 2012)**

1. Developed software for Archangel emergency management system *(WPF, C#, ASP.NET, Windows Phone 7)*
   - Top 20 at Microsoft Imagine Cup World Finals 2012, Sydney, Australia
2. Designed and implemented RX4 – a computer game engine *(OpenGL, Delphi)*
   - 1st place at «Game Development and Multimedia», International IT Projects Competitions 2011
3. Developed small and medium course projects

**Senior Specialist** at Kazakh-British Technical University, Almaty, Kazakhstan **(June 2011 – Dec 2011**)

1. Developed International School of Economics and Social Sciences website *(Drupal CMS)*
   - Was the official school website for three years, recognized by students and faculty
2. Created an online file and document sharing system *(Zend Framework, PHP)*
   - Successfully used by university faculty and staff for online paper work

## OTHER ACHIEVEMENTS

- Won the local Android Hackhaton 2011 by Google Technical User Group (an Android OpenGL-based game)
- Completed Bachelor's studies with «Diploma with Highest Honors» for perfect academic achievements
- Received full grant for BSc education and the scholarship named after the Republic's President (2011)
- Grand prize at «Web Applications and Database Design», International IT Projects Competitions 2011
- Intel Excellence in Computer Science Award for "Paper-based academic test generating software" (2008)