

Stephen Smithbower

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Education

- MSc **University of Victoria**, Candidate for Masters of Science, Health Informatics (expected 2017)
- BSc **University of British Columbia**, Bachelors of Science, Computer Science 2014

Work Experience

- **Mathtoons Media Inc.** | Chief Technology Officer **2013 - Current**
 - Lead a team to create a platform that allows educators to develop their own skills practice material and publish it directly to their student's mobile devices.
 - Platform consists of a mobile app, online editor, and a real-time learning analytics engine.
 - Published over 13 educational skills practice apps on both the Apple and Google Play app stores.
 - Raised over \$300,000 in IRAP funding and SR&ED rebates.
 - Developed research relationships with UBC Okanagan, The University of Saskatchewan, and Athabasca University.
- **BC Cancer Agency, Southern Interior** | Software Developer **2010 - Current**
 - Lead developer, cloud-based digital mammography quality control platform, MammoQC.
 - A standard part of the BC Screening Mammography Program's QC program – manages weekly SDNR tests for all public mammography sites in the province.
 - Enables technologists to perform QC tests on mammography units in an automated fashion, instantly shares results with the head office.
 - License has been sold to Ontario and several private sites.
- **Early Detection Research Group, BCCACSI** | Research Assistant **2010 - 2014**
 - Provide research support with big data analytics, database development, data visualization, and custom software solutions.
 - Projects include: breast cancer chemotherapy cost analysis, provincial breast cancer treatment outcomes, breast cancer outcomes microsimulation, rural treatment burden, permanent seed implant clinical trial for prostate brachytherapy, and lung cancer patient database development.

Publications/Presentations

- **Poster:** "The Development of a Visualization Platform for a Breast Cancer Treatment Microsimulation Model Using the British Columbian Cancer Treatment Data" *International Health Data Linkage Conference* **2014**

- **Poster:** “The Development of a Visualization Platform for a Breast Cancer Treatment Microsimulation Model Using the British Columbian Cancer Treatment Data” *International Health Data Linkage Conference* **2014**
- **Poster:** “Development of a Micro-simulation Model for Breast Cancer to Evaluate the Impacts of Personalized Early Detection Strategies” *International Workshop on Digital Mammography* **2014**
- **Co-Author:** A Regional Web-Based Automated Quality Control Platform *International Workshop on Digital Mammography* **2014**
- **Co-Author:** Development of a Microsimulation Model for Breast Cancer to Evaluate the Impacts of Personalized Early Detection Strategies *International Workshop on Digital Mammography* **2014**
- **Poster:** “mQC: A Centralized Platform for Automated Quality Control” *Radiological Society of North America Conference* **2013**
- **Poster:** “Utilizing Consumer Graphics Hardware to Accelerate Monte Carlo Population Simulations” *BCCA Annual Research Conference* **2012**
- **Poster:** “Development of Unified Quality Control Process for Digital Mammography Systems” *BCCA Annual Research Conference* **2012**
- **Presentation:** “Bulgarian Pregnancy Rates on Modern Graphics Cards: A Case Study for Implementing Monte Carlo Simulations on GPUs” *UBC Okanagan Undergraduate Research Conference* **2012**
- **Co-Author:** A Proposal for a New Communication Medium for the Classroom *Western Canadian Conference on Computing Education* **2010**
- **Presentation:** “How to Create a Thousands Lights: Efficient Generation of Many Dynamic Lights in a Real-Time 3D Environment” *UBC Okanagan Undergraduate Research Conference* **2010**

Research Experience

- Directed studies with Dr. Ramon Lawrence: *Automatic quality degradation using a pre-rendered complexity map for ray-traced rendering.* **2011**
- Directed studies with Dr. Ramon Lawrence: *Real-time indirect illumination in dynamic 3d imagery.* **2010**
- Research assistant for Dr. Patricia Lasserre: *Development of an in-classroom hand-held wireless whiteboarding system.* **2009**

Teaching Experience (Teaching Assistant)

- COSC 419F – Medical Imaging
- COSC 211 – Machine Architecture
- COSC 122 – Computer Fluency
- COSC 121 – Intro Programming II
- COSC 111 – Intro Programming I

Interests

- Personal research topics include: high performance computing utilizing graphics hardware (GPUs), microsimulations, image processing and medical image processing, operating system and compiler design.
- I'm a (very) amateur photographer – I shoot an Olympus OMD E-M5 micro four-thirds camera and I have an affinity for nature and landscapes.
- I really enjoy playing street hockey, ultimate frisbee, and rock climbing.
- I'm a huge Vancouver Canucks fan!