



## ABOUT

The **Software Quality Research (SQR) Lab** at Ontario Tech University is under the direction of Dr. Jeremy Bradbury and focuses on *improving the software quality of complex systems through enhanced tools, development practices and education*. In particular members of the lab conduct research on:

- Industry relevant problems and challenges
- Automation of software development activities using artificial intelligence (AI)
- Development of new software testing and analysis techniques
- Experimentation and user studies to understand how developers analyze, debug and test software
- Development of new methods to train software developers

## RECENT RESEARCH PROJECTS

**Automatic Analysis of Concurrent Software** — *“Applying genetic algorithms and machine learning to automatically localize and fix concurrency bugs”*

**Predicting Bug Severity Using Historical Data** — *“Combining natural language processing and ML to predict bug report severity using data from past projects”*

**XIVT: eXcellence In Variant Testing** [[www.xivt.org](http://www.xivt.org)] — *“Testing highly configurable, variant-rich embedded automotive systems”*

**Managing Developer Interruption** — *“Developing visualizations to support interruption recovery during programming, testing and debugging”*

**Adaptive Games for Computer Science** — *“Using AI to develop adaptive games for educating software development professionals”*

## LAB LEADER

Jeremy S. Bradbury  
Associate Professor, Computer Science, Ontario Tech University  
PhD, Queen’s University, 2007

## RESEARCH KEYWORDS

testing & analysis

bug repair debugging

quality assurance

concurrency open source

automotive software testing

human-centered soft. dev.

automation AI

genetic algorithms

machine learning

educational games

## CONNECT

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## CURRENT PARTNERS

