Bryant Curto

Research Interests

concurrent systems, distributed systems, operating systems, performance analysis, formal verification of concurrent and distributed algorithms.

Education

2020–present **MS Computer Science**, *University of Waterloo (UW)*, Waterloo, ON.
95.75/100.00 GPA

2014–2018 **BA Computer Science with Honors & BA Mathematics**, *New York University (NYU)*, New York, NY.
3.92/4.00 GPA, Summa Cum Laude, Phi Beta Kappa

Research Experience

2020–present **UW Graduate Research Assistant**, *Advisor: Martin Karsten*, Waterloo, ON.
Develop an approach for improving cache locality in thread-per-session applications by moving computation around the cores of a system using Fred/Libfibre, a user-level M:N threading runtime.
- Create a tool for characterizing the memory access behavior of an application.
- Evaluate methods for improving scalability and performance of the runtime.

2017–2018 **NYU Senior Honors Thesis**, *Advisor: Christopher Mitchell*, New York, NY.
Project Title: Ghosting ASLR: A Spectre Extension
Designed, implemented, and evaluated a novel approach for defeating address space layout randomization by leveraging the Spectre microprocessor vulnerability. Won best presentation award at NYU College of Arts and Science's 44th Undergraduate Research Conference.

Summer 2016 **Undergraduate Research Fellow**, *Advisor: Jinyang Li*, New York, NY.
Implemented and evaluated a novel database storage structure to reduce the latency of accesses performed in parallel with database entry migration.

Summer 2015 **Undergraduate Research Fellow**, *Advisor: Chee Yap*, New York, NY.
Designed and implemented a system for testing and visualizing Soft Subdivision Search algorithms in robotic motion planning. System was presented in a publication entitled *Path Planning for Simple Robots using Soft Subdivision Search* for which I was acknowledged.

Industry Experience

2018–2020 **Back-End Research & Development Engineer**, *Geopipe, Inc.*, New York, NY.
- Managed and developed the generation of virtual model products.
- Implemented and tested research algorithms to improve the quality and accuracy of product models. Work was funded by the National Science Foundation's SBIR: Phase II grant.
- Submitted paper to the European Conference on Computer Vision 2020.
- Supervised the day-to-day work of undergraduate interns.

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Summer 2017, Winter 2018 **Back-End Research & Development Assistant**, *Geopipe, Inc.*, New York, NY.
- Managed and developed the generation of virtual model products.
- Assisted in the implementation and testing of research algorithms to improve the quality and accuracy of product models. Work was funded by the National Science Foundation's SBIR: Phase I grant.

Teaching Experience

Spring 2021 **Teaching Assistant – CS456 Computer Networks**, *University of Waterloo.*

Winter 2021 **Teaching Assistant – CS116 Introduction to CS 2**, *University of Waterloo.*
Evaluation: 30/30

Summer 2018 **Private Tutor – Linear Algebra and Computer Science**, New York, NY.

Awards

2020–present **Graduate Excellence Award in Computer Science**.
UW Cheriton School of Computer Science

2018 **Best in Panel Presentation Award: Computer Science, Mathematics for *Ghosting ASLR: A Spectre Extension***.
NYU College of Arts and Science 44th Annual Research Conference

2018 **Award for Scholarship: Academic Excellence & Achievement in Science**.
NYU College of Arts and Science

2018 **Computer Science Prize: Outstanding Performance**.
NYU College of Arts and Science

2017 **Computer Science Prize: Most Promising Student in the Junior Year**.
NYU College of Arts and Science

2017 **Dean's Undergraduate Research Fund Award**.
NYU College of Arts and Science

2015–2018 **Louis Baron Scholarship Award for Mathematics**.
NYU College of Arts and Science

2014–2017 **Dean's List**.
NYU College of Arts and Science

Skills

PLs: C++, C, Python, Bash

OSes: Linux, MacOS

Tools: Git, Vim, GDB/LLDB, Perf, gnuplot