

ANGELA ZAVALETA-BERNUY

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EDUCATION

Masters of Science Candidate, Computer Science

University of Toronto

📅 September 2020 – April 2022

Honours Bachelor of Science Co-op Software Engineering and Mathematics

University of Toronto Scarborough (UTSC)

📅 September 2015 – April 2020

EXPERIENCE

Research Assistant

Intelligent Adaptive Interventions Lab, Department of Computer Science

University of Toronto

📅 May 2020 – Present

- Work on different projects related to Computer Science education including messaging interventions to encourage students to start their homework early and reduce procrastination, and personalized explanations in homework problems in an online learning system.
- Design multiple interventions relevant to our ongoing research projects for an Introduction to Computer Programming class to collect and analyze data of 2000 students in the course.

Teaching Assistant

Department of Computer & Mathematical Sciences

University of Toronto

📅 September 2016 – Present

- Host weekly tutorials and practicals; conducting quizzes and providing study advice, as well as sharing supplementary material to improve students' performance in the course.
- Hold weekly office hours for students to clarify any questions about lectures, tutorials or assignments material on a one-to-one environment.
- As a Head TA, I prepare course material and resources for students including tutorial content, assignments, and exercises; as well as managing course logistics and assisting with the transition to online learning.
- Courses:
 - Introduction to Programming - CSCA20 (Fall'19 - Head TA)
 - Introduction to Computer Programming - CSC108 (Fall'20, Winter'21)
 - Introduction to Computer Science I - CSCA08 (Fall'20)
 - Introduction to Computer Science II - CSCA48 (Winter'20, Summer'20, Fall'20, Winter'21 - Head TA)
 - Computer Organization - CSCB58 (Winter'18, Winter'19, Summer'19, Winter'20, Winter'21 - Head TA)
 - Human-Computer Interaction - CSCC10 (Winter'21)
 - Human-Computer Interaction - CSC428 (Winter'21)
 - The Magic of Numbers - MATA02 (Winter'19, Winter'20)
 - Calculus I - MATA30/32 (Fall'16, Winter'18, Fall'18)
 - Calculus II - MATA36 (Winter'17)
 - Multivariate Calculus - MATB41 (Fall'17, Fall'19, Summer'20, Fall'20)
 - Differential Equations - MATB44 (Fall'19)

Business Analyst

Government Services Integration Cluster I&IT

Ministry of Government and Consumer Services

📅 May 2017 – August 2018

- Led operational support for the Ontario Business Programs Guide project, including maintenance releases, incident tickets and client working groups.
- Organized initial requirements gathering meetings with new clients to understand their IT needs and provided options analysis document with possible effective IT solutions.
- Interacted with clients on a regular basis, handling their operational issues with existing applications and providing updates on current initiatives.

PROJECTS

Investigating the Impact of Online Homework Reminders Using Randomized A/B Comparisons

- Designed reminder messaging interventions to encourage students to start their online homework early and reduce procrastination in an Introduction to Computer Science class.
- Analyzed multiple factors including homework start, end time, attempt and completion rate to learn how do these reminder messages impact students' behaviours.
- Presented a Lightning Talk about the benefits of this experiment in online learning at the Computing Research Association (CRA) Virtual Conference in 2020.
- Presented the design and analysis in the Conference of Digital Experimentation (CODE) at MIT.
- Full paper was published in the Proceedings of the ACM Technical Symposium on Computer Science Education (SIGCSE) in 2021. [[Paper](#)]

PyBuggy: Testing the Effects of Enhanced Error Messages on Novice Programmers

- Designed enhanced Python error messages targeted to novice programming with the goal of reducing the technical syntax and brevity of regular error messages.
- Conducted a pilot study using a tool specifically designed to capture data about students presented with different error messages.
- Full paper was published in the Proceedings of the ACM Technical Symposium on Computer Science Education (SIGCSE) in 2021. [[Paper](#), [Poster](#)]

Developing Testing-First For a Less Intimidating Introductory CS Experience

- Experience report about reversing the traditional structure of an Introduction to Programming course for non-majors.
- Students were introduced fundamental skills of computer science: testing, program description, debugging and tracing before ever having to write any code to emphasize the skills that these students already possess.
- Full report was published at the Psychology of Programming Interest Group (PPIG) on November 2020. [[Proceedings](#)]

What are we asking our students?

- Performed a systematic literature review about first-year students' surveys to highlight the importance of standardization in Computer Science questionnaires to allow a more accurate comparison in research.
- Presented a Lightning Talk at the annual International Conference on International Computing Education Research (ICER) on 2019 about the early stages of the research.
- Participated in the ACM Technical Symposium on Computer Science Education (SIGCSE) 2020 under the Student Research Competition category.
- Full paper was published as part in the Proceedings of the 2020 ACM Conference on Innovation and Technology in Computer Science Education (ITiCSE). [[Paper](#)]

HONORS & AWARDS

- University of Toronto Scarborough Undergraduate Research Award, 2020
- University of Toronto Entrance Scholarship, 2015.
- University of Waterloo Euclid Mathematics Contest, 2015

EXTRACURRICULARS

- Vice President of Academics for the Association of Mathematics and Computer Science Students at UTSC. (2019-2020)
- Vice President of Finance for Women in Computer Science and Mathematics at UTSC. (2017-2020)
- Vice President of Finance for Chi Sigma Xi Multicultural Sorority at UTSC. (2018-2020)