Geneva M. Smith | Ph.D.

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Education

Ph.D., Software Engineering
Sept. 2017–June 2023

McMaster University, Department of Computing and Software

- Developed and partially tested a C# software "library" for game developers to include emotions in their Non-Player Characters (NPCs) for enhancing the player experience
- Motivated work using user experience (UX) and player experience (PX) concepts
- "Spiritual successor" of the M.A.Sc.—Software Engineering work

M.A.Sc., Software Engineering
May 2014–Apr. 2017

McMaster University, Department of Computing and Software

- Designed and developed an architecture for improving the believability of Non-Player Characters (NPCs) for enhancing the player experience in Bethesda's *The Elder Scrolls V: Skyrim*
- Implemented the architecture as a *Skyrim* "mod" using Bethesda's object-oriented scripting language Papyrus
- Conducted a user study to compare the "mod" with the original game for player engagement

Selected Teaching Experience

Graduate Teaching Assistant (Game Design)
Jan.–Apr. 2023

McMaster University, Department of Computing and Software

- Co-designed course with course instructor, including curriculum development and assignment planning
- Lead bi-weekly tutorials which included one-hour lecture and one-hour of student work for assessment
- Supervised eight teams of five students during a term-long game design and Unity development project

Graduate Teaching Assistant (Data Structures and Algorithms)
Jan.–Apr. 2022, 2018, 2016

McMaster University, Department of Computing and Software

- Planned weekly tutorials with the course instructor
- Encouraged students to contribute to solution development in tutorials (in-person and virtually)
- Prepared and provided solutions to weekly tutorials via the course delivery platform

Graduate Teaching Assistant (Human-Computer Interactions)
Sept.–Dec. 2021, 2014–2018

McMaster University, Department of Computing and Software

- Ran weekly tutorials to strengthen students' understanding of fundamental design concepts for user interfaces and user studies (in-person and virtually)
- Supervised teams of five students during a term-long design project
- Provided constructive feedback on user interface critiques and user study design

Graduate Teaching Assistant (Software Testing)
Jan.–Apr. 2021, 2020

McMaster University, Department of Computing and Software

- Created and delivered interactive tutorial content for assignment review and software test planning (in-person and virtually)
- Developed rubrics for assignments to provide per-question feedback and grade breakdowns

Supervising Experience

Graduate Student Supervisor (Brendan Fallon, Masters of Engineering)
Sept. 2020–Present

McMaster University, Department of Computing and Software

- Co-supervision with Dr. Jacques Carette
- Developing an interface in Unity to interface a C# software "library" of emotion elicitation methods with Unity
- Developed a process and rubric for evaluating game engines with respect to their support for NPC creation

Selected Projects & Competitions

EMgine (https://github.com/GenevaS/EMgine)   **2022–Present**
Software Development Project
○ Creating a software library for game developers to include emotions in their games
○ Implemented in C# to target Unity game development; Documenting its design, implementation, and testing

"Emojine: Let Them Have Emotions!" Video (https://youtu.be/VHo-bTDCiXs?t=722)   **2022**
McMaster's Second Annual GradFlix Competition (3rd Place and People's Choice)
○ One-minute video competition for effective and creative communication of graduate research stories
○ Edited and composed video with Adobe Premiere; Created special effects with Adobe Photoshop and After Effects; Recorded narration with Audacity; Tested video length with script and storyboard before filming

"The Temple" Game Design Pitch and Solution Presentation   **2019**
First Ubisoft Future Women in Games Mentorship
○ Game design challenge with the theme "my morning routine"
○ Pitched a survival-horror game concept for "escaping unscathed from cats" with prototyping and testing plans
○ Produced a narrated design solution presentation video outlining the intended player experience and success criteria, inspirations for the design, the proposed game mechanic, and a five-week prototyping plan

Selected Community Involvement

Life in Computing and Software Member   **2022–2023, 2018–2020**
McMaster University, Department of Computing and Software (CAS)
○ Contributed to event planning and execution for an ongoing initiative to improve student life in CAS
○ Vice President Administration (May 2019–Sept. 2020)
○ Attended the Graduate Curriculum Planning Meeting (GCPC) as a student representative (Jan.–Apr. 2020)

McMaster IEEE Student Branch Member   **2014–2017**
McMaster University
○ Trained students in lab safety and hands-on soldering skills

Selected Publications & Presentations

Creating Believable Stories with NPCs   **May 15, 2023**
Panel presented at the 2023 International Conference on Games and Narrative (ICGaN)
○ Discussed how video game characters impact player engagement, ways to design systems for implementing them
○ Part of the *Conversations with Games: Emergent Narratives and Gameplay Experience* panel

Design Foundations for Emotional Game Characters   **2019**
Eludamos: Journal for Computer Game Culture
○ Presents some of the foundational topics underlying the design and implementation of believable non-player characters via emotional reactions to the player and their environment (https://doi.org/10.7557/23.6175)

Effects of Interior Bezel Size and Configuration on Gaming Performance   **2015**
Proceedings of the 2015 IEEE Games Entertainment Media Conference (GEM 2015)
○ Academic paper completed as part of a multi-disciplinary team (https://doi.org/10.1109/GEM.2015.7377209)
○ Implemented a simple game for the study in Unity using C#; Assisted with the design of the user study; Coordinated and ran user tests; Significant contributions to the background research and writing

Selected Awards

2022: Dean's Award for Excellence in Communicating Graduate Research

2022: McMaster's Second Annual GradFlix Competition (3rd Place and People's Choice)

2022: Department of Computing and Software's Fourth Annual Poster Session (2nd Place Overall, 1st Place Aesthetics, 2nd Place People's Choice)

2020–2021: Ontario Graduate Scholarship (OGS)