

John J. Harris, PhD

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INTERESTS

asymmetric games, game design, human-computer interaction, rapid prototyping, animation, 3D graphics, large-scale face-to-face play

EDUCATION

PhD Computer Science

"Leveraging Asymmetry and Interdependence to Enhance Social Connectedness in Co-operative Digital Games"
University of Waterloo, 2019

MSc. Computer Science

"(e)motion: Exploring the Affect of Abstract Motion in Human-Robot Interaction"
University of Calgary, 2011

BASc., Honours Mechatronics Engineering, Co-op

University of Waterloo, 2009

EXPERIENCE

05/2020 – 12/2020

Research Associate

University of Waterloo Engineering IDEAs Clinic

Supervisor: Dr. Derek Rayside, Director, UW Software Engineering

09/2019 – 04/2020

Maker Support Staff

University of Waterloo Games Institute

Supervisor: Dr. Neil Randall, Executive Director

05/2008 – 08/2008

Research Intern

Sun Microsystems Laboratories, Palo Alto, California

Supervisor: Arshan Poursohi (now at Google)

09/2007 – 12/2007

Research Intern

Sun Microsystems Laboratories, Boston, Massachusetts

Supervisor: Nicole Yankelovich (now CEO of WonderBuilders Inc.)

GAME DESIGN PROJECTS & SKILLS

Beam Me 'Round, Scotty!

Asymmetric co-operative game for two players (3rd-person action & top-down tactical support). Three prototypes exploring how the design of player interdependence can enhance social connectedness.

C#, shaders (Unity game engine), environment/character modelling/rigging/animation (Blender), UI, iconography (Inkscape/GIMP), networking (UDP sockets), player experience testing

20XX (megagame prototype)

Large-scale digital "megagame" where asymmetric teams (of 5) guide their virtual nation through a three-week narrative alongside 200+ other players online.

C# (Unity game engine), automated testing (NUnit), procedural hex map generation, networking (TCP sockets), UI, iconography (Inkscape), database storage (SQLite), data serialization (JSON.Net), project management (GitLab, supervised 10 student employees)

Pocket Pirates	Networked, local multiplayer, Asteroids-style, arcade game where players use their phones as controllers but primary action takes place on a shared public display. C#, kinematics (Unity game engine), networking (UDP sockets), mobile interface design
UW Spaceship Collaboration Activity	Large-scale collaborative programming activity that gives first-year software engineering students exposure to Git and multi-hierarchical software development. C# (Godot game engine), GitLab (project management)
UW Feedback Control Sandbox	Virtual physics sandbox to help teach dynamic feedback control theory to upper-year engineering students. GDScript (Godot game engine), version control (Git), code porting (C# to GDScript)

GAMES DESIGN AWARDS

2015	JUDGE'S CHOICE AWARD (<i>Beam Me 'Round, Scotty!</i>) ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play
2015	PEOPLE'S CHOICE AWARD (<i>Beam Me 'Round, Scotty!</i>) ACM SIGCHI Annual Symposium on Computer-Human Interaction in Play

SCHOLARSHIPS & AWARDS

2019	Velocity Graduate Student Startup Fund \$5K
2016	Velocity Pitch Competition \$5K
2014-2017	NSERC Postgraduate Scholarship, Doctoral \$63,000 over 36 months
2011-2013	FOUR YEAR FELLOWSHIP \$26000 per year, University of British Columbia <i>(partial duration, changed programs after 2 years)</i>
2010-2011	QUEEN ELIZABETH II SCHOLARSHIP \$10,800 University of Calgary
2010-2011	DEPARTMENTAL RESEARCH AWARD \$6000 Department of Computer Science, University of Calgary
2010	HRI 2010 YOUNG PIONEERS WORKSHOP TRAVEL AWARD \$1500 5 th ACM/IEEE International Conference on Human-Robot Interaction

SELECTED PUBLICATIONS

[PhD Thesis]	"Leveraging Asymmetry and Interdependence to Enhance Social Connectedness in Cooperative Digital Games", June 2019 Full thesis available at: http://theplayfulpixel.ca/phd/phd.html
[Paper 1]	J. Harris, M. Hancock. "To Asymmetry and Beyond!: Improving Social Connectedness by Increasing Designed Interdependence in Cooperative Play". In <i>Proceedings of the 2019 CHI Conference on Human Factors in</i>

Computing Systems (CHI '19). May 4-9, 2019, Glasgow, Scotland, UK. ACM, New York, NY, USA, 12 pages. DOI: <https://doi.org/10.1145/3290605.3300239>

***ACM CHI Best Paper Honourable Mention Award Top 5% of 2960 papers submitted.**

[Paper 2]	J. Harris, M. Hancock, S. D. Scott. "Leveraging Asymmetries in Multiplayer Games: Investigating Design Elements of Interdependent Play". In <i>Proceedings of the 2016 Annual Symposium on Computer-Human Interaction in Play</i> (pp. 350-361). ACM. Lead author, projector lead.
[MSc Thesis]	J. Harris and E. Sharlin. "(e)motion: Exploring the Affect of Abstract Motion in Human-Robot Interaction" MSc. Thesis, University of Calgary, August 2011
[Invited Talk 1]	J. Harris, "Exploring the Emotional Impact of Robot Motion in Social Human-Robot Interaction", invited talk at the ERATO Igarashi Design Interface Laboratory, Tokyo University, Tokyo, Japan. Hosted by Dr. Takeo Igarashi, February 2010.

REFERENCES

Mike Brown	Team Lead Game Designer, Watch Dogs: Legion Ubisoft Toronto michael.brown@ubisoft.com Relationship: former co-worker and collaborator
Dr. Derek Rayside	Associate Professor, Director of Software Engineering University of Waterloo 519-888-4567 ext. 40248, drayside@uwaterloo.ca Relationship: client and project collaborator
Dr. Mark Hancock	Associate Director, Games Institute Assistant Professor, Management Science Engineering University of Waterloo 519-888-4567 ext. 36587, Mark.Hancock@UWaterloo.ca Relationship: PhD supervisor
Dr. Neil Randall	Director, Games Institute University of Waterloo 519-888-4567 x30134, Neil.Randall@UWaterloo.ca Relationship: Research community collaborator