Johann Wentzel

HCI Researcher - Virtual and Augmented Reality

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Education

University of Waterloo	**Sept 2018 - Present**
Master of Mathematics – Computer Science	Waterloo, ON
University of Calgary	**Sept 2011 – Jun 2017**
Bachelor of Science – Computer Science (First Class Honors)	Calgary, AB
Bachelor of Commerce – Business Technology Management	**GPA**: 3.85 / 4.0

Publications

Johann Wentzel, Daniel J. Rea, James E. Youn, and Ehud Sharlin. 2015. Shared Presence and Collaboration Using a Co-Located Humanoid Robot. In Proceedings of the 3rd International Conference on Human-Agent Interaction (HAI '15). ACM, New York, NY, USA, 273-276. DOI: https://doi.org/10.1145/2814940.2814995

Invited Talks

Robotics in Manufacturing / Working Alongside Baxter. ACAMP Seminar Series - Unmanned Vehicles, Robotics, and Intelligent Systems Seminar. Calgary, AB, Canada.

Shared Presence and Collaboration with a Co-Located Humanoid Robot. University of Calgary Undergraduate Research Symposium. Calgary, AB, Canada.

Work Experience

University of Waterloo	**Sept 2018 - Present**
Graduate Researcher and Teaching Assistant	Waterloo, ON

- Conducting research into virtual reality UI accessibility, supervised by Dr. Daniel Vogel.
- Current research explores movement amplification on comfort and fatigue in small virtual reality spaces.
- Lab instructor for several undergraduate programming classes.

Deloitte	**Aug 2017 – Aug 2018**
Business Technology Analyst (Front-End Developer)	Calgary, AB

- Created an iOS app for navigation and SAP Cloud interaction, including OCR reading and a custom keyboard.
- Created an augmented reality eCommerce demo for industry clients using Unity and Node.js.
- Created a loan application web-app for a client using Angular 4 and Salesforce.

Critical Mass	**May 2016 – Aug 2016**
User Experience Design Intern	Calgary, AB

- Created interactive design prototypes for user testing, using code-based animation tools (*Framer.js, Principle*).
- Created and annotated user flows and wireframes for websites and software. (*Sketch, OmniGraffle*).
- Researched, prototyped, and internally implemented an online music game (*Bootstrap/NodeJS*).

University of Calgary	**Sept 2014 – Sept 2015**
Undergraduate Researcher	Calgary, AB

- Developed an augmented reality interface between Google Glass, Kinect, and a Baxter humanoid robot.
- Published pilot study findings in a scientific journal as first author, winning a Calgary Undergraduate Research Award.

SMART Technologies	**May 2014 – Aug 2014**
User Experience Design Intern	Calgary, AB

- Created automated data entry scripts to track and close user feature requests, reducing manual entry time by 50%.
- Created various full-process mockups for products, from concepts and sketches to full interactive interface prototypes.
- Created demonstration and concept videos of early-development software prototypes.

Awards

2018	**David R. Cheriton Graduate Scholarship**, $10,000/year for two years (institutional, academic)
	Domestic Masters Entrance Award, $5,000 (institutional, academic)
	Declined to Accept: NSERC Graduate Scholarship (CGS-M), $17,500 (Saskatoon/Calgary, national, academic)
2016	University of Calgary Undergraduate Merit Award, $800 (institutional, academic)
2015	P.U.R.E. (Program for Undergraduate Research Experience) Award, $6,000 (institutional, academic)
2014	Alistair H. Ross Memorial Scholarship, $3,750 (institutional, academic)
2011	President's Admission Scholarship, $2,500 (institutional, academic)
2011-2017	Dean's List (GPA above 3.6 / 4.0 for the entire year)

Selected Projects

VR-Bounce (VR/IoT Research Project)   April 2019
- An Arduino-powered wireless movement accessory for virtual reality.
- Uses IMUs to detect the user bouncing their heels, which is then processed and turned to player movement.

MagnaGirl (Extra Credits Game Jam)   August 2018
- A side-scrolling platforming game using magnetic attraction and repulsion as a core movement mechanic.
- Contributed to the game's level design, including programming magnet physics and player movement.

Coril150 (iOS/Android App)   Released June 2017
- As a solo freelance developer, created a news reader app for Coril Holdings Ltd.'s Canada 150 celebrations.
- Duties included UI design, UI development, and development of the app's behavior and network calls.

Proxemic Dashboard (Undergrad HCI Project)   April 2015
- A depth-aware bulletin board where the information shown changes based on how close the user is standing.
- Designed and developed the entire project, from initial sketches to working prototype.
- Depth sensing implemented with the Kinect SDK, UI elements from Visual Studio's Windows app designer.

Volunteering

University of Calgary Orientation   Sep 2013 – Sep 2015
- Led groups of around thirty first-year students on tours of campus.
- Facilitated several campus-wide volunteering events to build awareness of campus services.
- Provide one-on-one directions and advice for students seeking answers about campus life.

University of Calgary Musical Theatre   June 2013 – Jan 2015
- Cast member and social media manager for the University of Calgary Operetta Company.

Alberta Youth Choir   Oct 2013 – Oct 2015
- Performed as a vocal bass along with around 40 others in a provincial honor choir, offering touring performances in various different venues around Alberta.

Front Row Centre Players   June 2011 – June 2018
- Cast member, orchestra performer, and technical setup advisor for various musical theatre productions.

Skills

Programming languages: Swift, Objective-C, Java, HTML, CSS, Javascript, XML, C/C++/C#, Python, SQL.
Frameworks/tools: Xcode, Android Studio, Bootstrap, Unity, React, Angular 4, d3.js, jQuery, Wordpress, NodeJS, Git.
Tools: Sketch, Framer.js, Principle, Balsamiq Mockups, Adobe Creative Cloud.
Misc./Hobbies: Computer building, custom Android ROMs, game development, VR/AR interfaces (Leap Motion, etc.)