# Jessy Ceha

jceha@uwaterloo.ca | jessyceha.com | Pronouns: she/her | Nationalities: Canadian, Dutch

## Education

**Ph.D. in Computer Science (Human-Computer Interaction)** 2021

*University of Waterloo, Waterloo, ON, Canada*

     Supervisor: Prof. Edith Law

     Thesis: Affective Expressions in Conversational Agents for Learning Environments

**M.Sc. in Human-Machine Communication (Computational Cognitive Science)** 2016

*University of Groningen (RUG), Groningen, the Netherlands*

     Supervisor: Prof. Marieke van Vugt

     Thesis: Investigation into the Enhancement of Voice Perception:
          With Simulations of Cochlear Implants and Bimodal Hearing

**B.Sc. in Cognitive Systems** 2014

*University of British Columbia, Vancouver, BC, Canada*

## Experience

**Research Assistant (Ph.D.)** 2017 – Present

*School of Computer Science, University of Waterloo*

     Various projects focused on social A.I. agents (robots; chatbots; voice assistants).
     Resulted in publications [P1], [P2], [P3], [P5], [P6], and work-in-progress [W1].

**Research Assistant (M.Sc.)** 2015 – 2016

*Dept. of Audiology, University Medical Centre & Dept. of Experimental Psychology, RUG*

     Psycho-acoustic experiments with simulations of bimodal hearing [P7] and EEG
     neurofeedback for improving auditory speech perception for cochlear implant wearers.

**Research Intern** 2014 – 2016

*Philips, Drachten, the Netherlands*

     Worked with the Philips Consumer Lifestyle division to conduct technical research.
     Involved fabrication via 3D printing, PCBs, followed by user studies on developed systems.

**Research Assistant (M.Sc.)** 2014 – 2016

*Institute of A.I. and Cognitive Engineering, RUG*

     Conducted research on cognitive and user modelling.

## Skills

**Technical**

R, SPSS, Python, Java, MATLAB, Javascript, HTML/CSS, OpenViBE, Arduino, ROS

**Research**

Applied experience with adults & children in clinical, field, & lab settings
Study design
Ethics and grant applications
Conversational interaction design (incl. dialog generation, speech synthesis, & user experience)
Human-physiology measurement (EEG, EMG, pupil dilation, eye tracking)
Interview and questionnaire design & administration
Usability testing
Participatory & Co-design methodologies
Qualitative & Quantitative data collection & analysis

## Refereed Publications

*\*\*\* Note on conference papers: in Human-Computer Interaction, these are the preferred publication venues, being timelier and having the greatest impact. Top-tier conferences require rigorous multi-stage review of manuscripts for archival proceedings.*

[P1] **Ceha, J.**, Law, E., Kulić, D., Oudeyer, P-Y., and Roy, D. (2021). *Identifying Functions and Behaviours of Social Robots for In-Class Learning Activities: Teachers' Perspective*. International Journal of Social Robotics. Springer Nature B.V., 1-15. DOI: `10.1007/s12369-021-00820-7`.

[P2] **Ceha, J.**, Lee, K. J., Nilsen, L., Goh, J., and Law, E. (2021). *Can a Humorous Conversational Agent Enhance Learning Experience and Outcomes?* In Proceedings of CHI Conference on Human Factors in Computing Systems (CHI '21). ACM, New York, NY, USA, Article 685, 1–14. DOI: `10.1145/3411764.3445068`. ***Best Paper Honorable Mention (Top 5% of submissions).*** [Acceptance rate: 23%]

[P3] Appriou, A., **Ceha, J.**, Pramij, S., Dutartre, D., Law, E., Oudeyer, P-Y., and Lotte, F. (2020). *Towards measuring states of epistemic curiosity through electroencephalographic signals*. 2020 IEEE International Conference on Systems, Man, and Cybernetics (SMC), 2020, pp. 4006-4011. DOI: `10.1109/SMC42975.2020.9283108`.

[P4] Henderson, J., **Ceha, J.**, and Lank, E. (2020). *STAT: Subtle Typing Around the Thigh for Head-Mounted Displays*. In 22nd International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI '20). ACM, New York, NY, USA, Article 27, 1–11. DOI: `10.1145/3379503.3403549`. [Acceptance rate: 24%]

[P5] Law, E., Ravari, P. B., Chhibber, N., Kulić, D., Lin, S., Pantasdo, K. D., **Ceha, J.**, Suh, S., and Dillen, N. (2020). *Curiosity Notebook: A Platform for Learning by Teaching Conversational Agents*. In Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems (CHI EA '20). ACM, New York, NY, USA, 1–9. DOI: `10.1145/3334480.3382783`

[P6] **Ceha, J.**, Chhibber, N., Goh, J., McDonald, C., Oudeyer, P-Y., Kulić, D., and Law, E. (2019). *Expression of Curiosity in Social Robots: Design, Perception, and Effects on Behaviour*. In Proceedings of CHI Conference on Human Factors in Computing Systems (CHI '19), May 4–9, 2019, Glasgow, Scotland UK. ACM, New York, NY, USA, 11 Pages. DOI: `10.1145/3290605.3300636`. [Acceptance rate: 23.8%]

[P7] Başkent, D., Luckmann, A., **Ceha, J.**, Gaudrain, E., and Tamati, T. N. (2018). *The discrimination of voice cues in simulations of bimodal electro-acoustic cochlear-implant hearing*. The Journal of the Acoustical Society of America, 143(4), EL292. DOI: `10.1145/10.1121/1.5034171`

## Works In Preparation

[W1] **Ceha, J.** and Law, E. (2021). *Expressive Auditory Gestures in a Voice-Based Pedagogical Agent*. (Under Review).

## Non-Refereed Publications

[N1] **Ceha, J.** (2021). *Affective Expressions in Conversational Agents for Learning Environments: Effects of curiosity, humour, and expressive auditory gestures*. Ph.D. Dissertation, University of Waterloo, Canada.

[N2] Law, E., Nilsen, E., Lee, K.J., Chauhan, A., **Ceha, J.**, Baghaei, P., Debbane, A., and Yang, K. (2020). *Learning and Teaching with Conversational Agents*. In CHI 2020 Workshop on Grand Challenges in Conversational UI.

[N3] **Ceha, J.** (2016). *Investigation into the Enhancement of Voice Perception: with simulations of cochlear implants and bimodal hearing*. Master's Thesis, University of Groningen, the Netherlands.

## Teaching

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| **CS 449/649 – Human-Computer Interaction – TA**<br>*University of Waterloo* | 2020, 2021 |
| **CS 349 – Introduction to User Interfaces – TA/Instructional Apprentice**<br>*University of Waterloo* | 2018, 2020 |
| **CS 106 – Introduction to Computer Programming 2 – TA/Instructional Apprentice**<br>*University of Waterloo* | 2018, 2021 |
| **CS 105 – Introduction to Computer Programming 1 – TA/Instructional Apprentice**<br>*University of Waterloo* | 2017, 2018, 2019 |

## Awards

**NSERC Postgraduate Scholarship-Doctoral**　　　　　　　　　　　　　　2019 – 2021
*University of Waterloo*

> Awarded by the Natural Sciences and Engineering Research Council of Canada (NSERC)
> to high-calibre scholars on a competitive basis. Valued at $42 000 CAD.

**University of Waterloo President's Graduate Scholarship**　　　　　　2019 – 2021
*University of Waterloo*

> Provided to outstanding graduate students who hold certain major federally and provincially
> funded competition-based scholarships. Valued at $10 000 CAD annually.

**Math Domestic Graduate Student Award**　　　　　　　　　　　　　　2017 – 2021
*University of Waterloo*

> Awarded to incoming Canadian graduate students. Valued at $6 000 CAD annually.

**University of Waterloo Provost Doctoral Entrance Award for Women**　　　　2017
*University of Waterloo*

> Awarded by the Faculty of Mathematics to outstanding female Ph.D. students on a competitive basis.
> Valued at $5 000 CAD.

**Avril McDonald Award**　　　　　　　　　　　　　　　　　　　　　　　2016
*RUG*

> Awarded by the Rosalind Franklin Fellows of the University of Groningen on a competitive basis
> each year to 3-4 students to encourage promising female scientists to pursue an academic career.
> Valued at $1 000 EUR.

## Service

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| **Peer Reviewer**<br>*ACM venues (CHI, HRI, IDC), IEEE venues (HRI, ICDL)* | 2017 – Present |
| **CHI Conference Student Volunteer**<br>*ACM SIGCHI* | May 2019<br>Glasgow, Scotland |
| **Educational Assistant**<br>*Prueter Public School* | May 2019<br>Kitchener, ON, Canada |
| **Workshop Chair – Human-Robot Interaction**<br>*SHAD Canada* | July 2018<br>Waterloo, ON, Canada |
| **Workshop Instructor – UX Design and Research**<br>*GIRLsmarts4tech* | June 2018<br>Waterloo, ON, Canada |