

# Diljot Singh Garcha

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## TECHNICAL EXPERIENCE

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**Software Developer** (Co-op Work Term 1) **January 2019 to Present**

[Invenia Technical Computing Corporation](#)

- Developing new features for a data acquisition, parsing, and transformation system as part of a cloud-based machine learning platform that uses high-frequency data to optimize power grids
- Developing with Python and various Amazon Web Services including Lambda, DynamoDB, CloudFormation, SQS, and S3

**Undergraduate Researcher**

[Human-Robot Interaction Lab | University of Manitoba](#)

Advisor: Dr. James Young

*Ambivalent Sexism Theory: Impact on HRI* **Summer 2018**

- Developed and adapted interfaces using Python and C# to enable a researcher to wizard a humanoid robot
- Conducted and coordinated Human-Robot Interaction studies with over 90 participants

*Flexible Avatar Models for In-The-Wild Robots* **Summer 2017**

- Created an interface in Python for a telepresence robot to be utilized for an In-The-Wild Social Human-Robot Interaction study
- Utilized web technologies to display and regulate avatar models on the telepresence robot

## EDUCATION

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**Bachelor of Computer Science Honours** (Co-op) **2016 to Present**

[University of Manitoba | Winnipeg, MB](#)

- Cumulative GPA: 4.13/4.50
- Dean's Honour List - Fall 2016 to Present
- Faculty of Science Undergraduate Research Award - 2017 & 2018

## PUBLICATIONS

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- Sanoubari, E, Seo, SH, **Garcha, DS**, Young, JE, Loureiro- Rodríguez. (2019) "Good Robot Design or Machiavellian? An in-the-wild robot leveraging minimal knowledge of passersby's culture"
  - In Proceedings of alt.HRI track, ACM/IEEE International Conference on Human-Robot Interaction (HRI '19)
- Thiessen, R, Rea, DJ, **Garcha, DS**, Cheng, C, Young, JE. (2019) "Infrasound for HRI: A Robot Using Low-Frequency Vibrations to Impact How People Perceive its Actions"
  - In Proceedings of the 14th ACM/IEEE International Conference of Human-Robot Interaction (HRI '19)
- Sanoubari, E, Geiskkovitch, DY, **Garcha, DS**, Sabab, SA, Hong, K, Young, JE, Bunt, A, Irani, P. (2018) "Subliminal Priming in Human-Agent Interaction: Can Agents Use Single-Frame Visuals in Video Feeds to Shape User Perceptions?"
  - In Proceedings of the 6th ACM International Conference on Human-Agent Interaction (HAI '18)

## TECHNICAL SKILLS

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**Languages**

- Proficient with Python & Java
- Familiarity with JavaScript, HTML & CSS
- Course-Level experience with SQL, C/C++, & Assembly

**Technologies**

- Amazon Web Services
- Git, Bash, PyCharm, & IntelliJ
- Windows, macOS, & Linux
- jQuery, Bootstrap, & Jekyll
- NAOqi OS & ROS

## RECENT PROJECTS

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**Revelation: Sentiment Analysis**  
[Individual Project](#)

- A sentiment analysis engine built from the ground up using Python

**Silverware: Ordering System**  
[Group Project](#)

- A restaurant ordering system prototype built using jQuery, Bootstrap, and Featherlight

**Resume Creator**

[MLH Local Hack day](#)

- A prototype application that creates a basic resume by parsing LinkedIn profile data built in Java
- Winner of the Most Innovative Project Award

## EXTRACURRICULAR

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**Co-Vice President**

**March 2018 to March 2019**

**Women in Computer Science**  
[University of Manitoba](#)

- Helped plan mentor mingle events to drive interest in rising tech companies and provide an opportunity for emerging and established women in the field to network
- Promoted the student group to encourage gender diversity within Computer Science