

# Daniele Reda

X660, 2366 Main Mall, V6T 1Z4, Vancouver, BC, CANADA

dreda@cs.ubc.ca  
cs.ubc.ca/~dreda

## EDUCATION

---

- University of British Columbia** September 2019 – Summer 2024 (expected)  
*PhD in Computer Science* Vancouver, BC, CA
- Advisor: Michiel Van de Panne
  - Topic: Reinforcement Learning, Representation Learning, Control, Physics-based Simulation, Character Animation
- Telecom ParisTech - Eurecom Research Center** September 2016 – April 2018  
*Master of Science in Computer Science* Sophia Antipolis, FR
- Polytechnic University of Turin** September 2015 – April 2018  
*Master of Science in Computer Engineering, with honors* Turin, IT
- Thesis: Non-invasive markers for the detection of truth telling in surveys through statistical modelling
- Polytechnic University of Turin** September 2012 – July 2015  
*Bachelor of Science in Computer Engineering* Turin, IT

## EXPERIENCE

---

- Sanctuary AI** August 2023 - December 2023  
*Research Scientist Intern* Vancouver BC, CA
- Reinforcement Learning for grasping and manipulation control policies
- Meta Reality Labs - Research (previously Facebook/Oculus Research)** May 2022 - December 2022  
*Research Scientist Intern* Sausalito, CA, US
- Physics-based Character Animation for the Metaverse using Deep Reinforcement Learning
- Inverted AI** May 2020 - May 2021  
*PhD Student Researcher* Vancouver, BC, CA
- MITACS scholarship between UBC and Inverted AI with Frank Wood
  - Conditional Variational Methods for Stochastic Belief Modeling of Realistic Human Behaviors in Autonomous Driving
- University of British Columbia** September 2019 - ongoing  
*Graduate Student* Vancouver, BC, CA
- Graduate Student Researcher
  - Teaching Assistant for different courses, see Teaching section below
- Wayve AI** May 2018 – June 2019  
*Reinforcement learning Research Engineer* Cambridge, UK
- Reinforcement learning on autonomous vehicles
- University of California, Berkeley** August 2017 – February 2018  
*Visiting Research Scholar at Berkeley AI Research Lab (BAIR)* Berkeley, CA, US
- Research scholar with professor Ruzena Bajcsy working on statistical models for truth telling recognition

## PUBLICATIONS (IN REVERSE CHRONOLOGICAL ORDER)

---

- [1] Alexis Jensen, Thomas Chatagnon, Niloofar Khoshsiyar, **Daniele Reda**, Michiel Van De Panne, Charles Pontonnier, and Julien Pettré. Physical simulation of balance recovery after a push. In *Proceedings of the 16th ACM SIGGRAPH Conference on Motion, Interaction and Games*, MIG, 2023.
- [2] **Daniele Reda**, Jungdam Won, Yuting Ye, Michiel van de Panne, and Alexander Winkler. Physics-based motion retargeting from sparse inputs. In *22nd ACM SIGGRAPH/EUROGRAPHICS Symposium on Computer Animation*, SCA, 2023. Webpage at <https://www.cs.ubc.ca/~dreda/retargeting.html>.

- [3] Tianxin Tao, **Daniele Reda**, and Michiel van de Panne. Evaluating vision transformer methods for deep reinforcement learning from pixels. *ICRA Workshop on Scaling Robot Learning*, 2022.
- [4] **Daniele Reda**, Hung Yu Ling, and Michiel van de Panne. Learning to brachiare via simplified model imitation. *ACM SIGGRAPH*, 2022. Webpage at <https://brachiation-rl.github.io/brachiation>.
- [5] Adam Scibior, Vasileios Lioutas, **Daniele Reda**, Peyman Bateni, and Frank Wood. Imagining the road ahead: Multi-agent trajectory prediction via differentiable simulation. *International Conference on Intelligent Transportation (ITSC)*, 2021. Also BEST PAPER AWARD at CVPR Workshop on Autonomous Driving: Perception, Prediction and Planning, 2021.
- [6] **Daniele Reda**, Tianxin Tao, and Michiel van de Panne. Learning to locomote: Understanding how environment design matters for deep reinforcement learning. In *Proc. ACM SIGGRAPH Conference on Motion, Interaction and Games*, 2020. Webpage at <https://www.cs.ubc.ca/~van/papers/2020-MIG-envdesign>.
- [7] Jeffrey Hawke\*, Richard Shen\*, Corina Gurau\*, Siddharth Sharma\*, **Daniele Reda\***, Nikolay Nikolov\*, Przemyslaw Mazur\*, Sean Micklethwaite\*, Nicolas Griffiths\*, Amar Shah\*, and Alex Kendall\*. Urban driving with conditional imitation learning. *ICRA*, 2020. Blog post at <https://wayve.ai/blog/learned-urban-driving>.
- [8] Wayve AI Research Team. Learning to drive in imagination. *Published as a blog post at <https://wayve.ai/blog/dreaming-about-driving-imagination-rl>*, 2018.
- [9] Alex Kendall, Jeffrey Hawke, David Janz, Przemyslaw Mazur, **Daniele Reda**, John-Mark Allen, Vinh-Dieu Lam, Alex Bewley, and Amar Shah. Learning to drive in a day. *ICRA*, 2019. Blog post at <https://wayve.ai/blog/l2diad>.

## TEACHING

---

**Object-Oriented Programming:** Spring Term, 2016  
**CPSC 422 Intelligent Systems:** Winter Term 1, 2019  
**IVADO/MILA/DSI Deep Learning Winter School 5th Edition:** December 2019  
**DSCI 572 Supervised Learning II:** Winter Term 2, 2020  
**DSCI 563 Unsupervised Learning:** Winter Term 2, 2020  
**DSCI 575 Advanced Machine Learning:** Winter Term 2, 2020  
**WON THE MDS TA AWARD:** Winter Term 2, 2020  
**CPSC 533V Learning to Move - Reinforcement Learning:** Winter Term 2, 2020  
**CPSC 340 Machine Learning and Data Mining:** Winter Term 2, 2021  
**6th IVADO/MILA Deep Learning School:** April 2021  
**CPSC 533V Learning to Move - Reinforcement Learning:** Winter Term 1, 2022)  
**CPSC 533V Learning to Move - Reinforcement Learning:** Winter Term 2, 2024)

## SKILLS

---

**Computer Languages:** Python, Java, C  
**Human Languages:** English, Italian, Spanish, French  
**Technologies:** PyTorch, GitHub, L<sup>A</sup>T<sub>E</sub>X, ROS and others  
**Soft skills:** communication and leadership skills, organizational and team working skills, 7+ years of volunteering