

# Daniele Reda

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

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

## EDUCATION

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### University of British Columbia

*PhD in Computer Science*

September 2019 – ongoing  
Vancouver, BC, Canada

- Advisor: Michiel Van de Panne
- Topic: Reinforcement Learning, Representation Learning, Control

### Telecom ParisTech - Eurecom Research Center

*Master of Science in Computer Science*

September 2016 – April 2018  
Sophia Antipolis, France

### Polytechnic University of Turin

*Master of Science in Computer Engineering, full honours*

September 2015 – April 2018  
Turin, Italy

- Thesis: Non-invasive markers for the detection of truth telling in surveys through statistical modelling

### Polytechnic University of Turin

*Bachelor of Science in Computer Engineering*

September 2012 – July 2015  
Turin, Italy

## EXPERIENCE

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### Inverted AI

*PhD Student Researcher*

May 2020 - May 2021  
Vancouver, BC, Canada

- 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

*Graduate Student*

September 2019 - ongoing  
Vancouver, BC, Canada

- Graduate Student Researcher
- Teaching Assistant for different courses, see Teaching section below

### Wayve Technologies

*Reinforcement learning Research Engineer*

May 2018 – June 2019  
Cambridge, UK

- Reinforcement learning on autonomous vehicles

### University of California, Berkeley

*Visiting Research Scholar at Berkeley AI Research Lab*

August 2017 – February 2018  
Berkeley, CA

- Research scholar with professor Ruzena Bajcsy working on statistical models for truth telling recognition

### Polytechnic University of Turin

*Teaching Assistant*

September 2015 – June 2016  
Turin, Italy

- Teaching Assistant for Object Oriented Programming course

## PUBLICATIONS

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- [1] Adam Scibior, Vasileios Lioutas, **Reda, Daniele**, Peyman Bateni, and Frank Wood. Imagining the road ahead: Multi-agent trajectory prediction via differentiable simulation. *24th International Conference on Intelligent Transportation (ITSC)*, 2021. Also BEST PAPER AWARD at CVPR Workshop on Autonomous Driving: Perception, Prediction and Planning, ADP3, 2021.
- [2] **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>.

- [3] 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. *International Conference on Robotics and Automation (ICRA)*, 2020. Blog post at <https://wayve.ai/blog/learned-urban-driving>.
- [4] 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. *International Conference on Robotics and Automation (ICRA)*, 2019. Blog post at <https://wayve.ai/blog/l2diad>.

## OTHER PROJECTS

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### Learning to Drive in Imagination

2018

- We demonstrate a model-based algorithm trained solely in imagination drive and generalize to multiple weathers in the real-world.
- Blog post: <https://wayve.ai/blog/dreaming-about-driving-imagination-rl>

## TEACHING

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**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 340 Machine Learning and Data Mining:** Winter Term 2, 2021

**6th IVADO/MILA Deep Learning School:** April 2021

## SKILLS

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**Computer Languages:** Python, Java, C

**Human Languages:** English, Italian, French, Spanish

**Technologies:** PyTorch, GitHub,  $\text{\LaTeX}$ , ROS and others

**Soft skills:** communication and leadership skills, organizational and team working skills, 7+ years of volunteering