

# LUCA HERR-TTI

HERRANZ CELOTTI

## Deep Learning Critical Representations Expert

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📧 lucehe.github.io 📄 github.com/LuCeHe  
📍 Montreal, Qc

## EXPERIENCE

### Co-founder of Kiwano

#### AI based algorithmic crypto trading

📅 February 2022 – ongoing 📍 Montreal, Canada

- We created **Kiwano Portfolio**, an open source platform to backtest, livettest and livetrade any trading algorithm of your creation on cryptos through Binance.
- We are working on **3 more products** to release soon.

### PhD student in Machine Learning

#### Critical Initializations for Recurrent Neuromorphic Deep Learning

📅 April 2016 – December 2022 📍 Université de Sherbrooke, Canada

- Supervisor: Jean Rouat
- Lead organizer for the NeurIPS Workshop **DLDE2021, DLDE2022**

### Internship in Computational Neuroscience

#### Uncertainty Propagation in Population Coding

📅 October 2014 – October 2015 📍 Université de Genève, Switzerland

- Supervisor: Alexandre Pouget

### Master in Biophysics

#### Information Transfer between Neurons

📅 October 2012 – October 2013 📍 Universidad Autónoma de Madrid, Spain

- Supervisor: Nestor Parga
- Final grade: 2nd best among 14 students, 87,8
- Master Thesis on Neuroscience: "Information transfer during a perceptual decision task"

### Erasmus Scholarship

#### Directed Networks for Citation Graphs

📅 October 2011 – October 2012 📍 Imperial College of London, United Kingdom

- Yearlong Project on Graphs: "A dimensional analysis on directed networks for citation graphs"

### Undergraduate in Physics

#### Theoretical Physics

📅 October 2007 – October 2012 📍 Universidad Autónoma de Madrid, Spain

- Final grade: 9th best among 64 students, 81,7%
- Maths (Topology, Differential Geometry, Group Theory, Graphs) and Psychology lectures

## PUBLICATIONS

- Herranz-Celotti, L. and Rrapaj, E. (2023). "Less is More! A slim architecture for optimal language translation". In: *arXiv preprint*.
- Hosseini, M., Celotti, L., and Plourde, E. (2022). "End-to-End Brain-Driven Speech Enhancement in Multi-Talker Conditions". In: *IEEE/ACM Transactions on Audio, Speech, and Language Processing*.
- Herranz-Celotti, L. and Rouat, J. (2022a). "Surrogate Gradient Design". In: *submitted to IEEE*.
- Herranz-Celotti, L., Bellec, G. and Rouat, J. (2022b). "Recurrent Stable Representations". In: *submitted to IEEE*.
- Hosseini, M., Celotti, L., and Plourde, E. (2021). "Speaker-independent Brain Enhanced Speech denoising". In: *ICASSP*.
- Brodeur, S., Perez, E., Anand, A., Golemo, F., Celotti, L., Strub, F., Rouat, J., Larochelle, H., and Courville, A. (2018). "HoME: a Household Multimodal Environment". In: *ICLR Workshop Paper*.
- Celotti, L., Brodeur, S., and Rouat, J. (2018). "Language Coverage and Generalization in RNN-based Continuous Sentence Embeddings for Interacting Agents". In: *ViGIL 2018, NeurIPS Workshop*.
- Brodeur, S., Celotti, L., and Rouat, J. (2017). "Proposal of a Generative Model of Event-based Representations for Grounded Language Understanding". In: *Proc. GLU 2017*.

## STRENGTHS

Python/Matlab  
TensorFlow/Pytorch  
Deep Learning  
Spiking Networks  
Reinforcement Learning  
Linux  
Latex  
GitHub  
EEG Processing  
Programming Drones  
Flask/Docker/Kubernetes



## LANGUAGES

English  
Italian  
Spanish  
French  
German  
Chinese/Arabic/Persian



## OTHERS

- Passionate reader.
- Playing football (soccer), even if now I do it seldom, gives me the opportunity to be creative at understanding spaces and actions, peoples' rhythms at moving, their personal understanding of movement, their weaknesses and strengths, while working towards the team's common goals and keeping the team motivated.
- Exploration of different musical instruments like the violin, the guitar, the piano and the drums. I was also a drummer in a Samba band.
- I volunteered two summers with a CSIC researcher in Physics, on "Bohmian Trajectories".
- Hitchhiking 4 000km in a year means holding myself responsible and finding enjoyment in looking for creative solutions.
- Figuration in a Hollywood and in a Bollywood movie :)
- Won a drone in the 2015 Kyoto Machine Learning Summer School against 400 students.
- I like to elicit randomness, as a sparkle for creativity, look for the unexpected and learn from it.

## REFEREES

Prof. Jean Rouat  
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Prof. Ugo Bastolla  
@ ubastolla@cbm.uam.es