LUCA HERR-TTI HERRANZ CELOTTI

Deep Learning Critical Representations Expert

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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, livetest 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 Génève, 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

- Calvet, E. **Hertti, L.** and Valimamode, K. (2023). "SmartDCA superiority". In: *submitted*.
- **Herrtti, L.** and Rouat, J. (2023). "Stabilizing RNN Gradients through Pre-training ". In: *submitted*.
- **Herrtti, 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*.
- **Herrtti, L.** and Rouat, J. (2022). "Surrogate Gradient Design". In: *submitted to IEEE*.
- Celotti, Luca, Brodeur, Simon, and Rouat, Jean (2021). "AriEL: volume coding for sentence generation comparisons". In: *arXiv preprint*.
- 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
- Slurm
- 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