EDUARDO PIGNATELLI

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EDUCATION

1. **Doctor of Philosophy**
   University College London
   November 2020 to **present**
   London, United Kingdom
   Subject: Credit Assignment in Deep Reinforcement Learning

2. **Master of Science in Architecture**
   University of Naples Federico II
   2015
   Naples, Italy
   Subject: Architecture and Engineering

EXPERIENCE

1. **Research Assistant**
   Imperial College London
   September 2019 to November 2020
   London, UK
   Skills: Python, Jax, Flax, Pytorch, GPU computing, Git, Numerical methods, Predictive modelling.

2. **Machine Learning and Decision Analytics Lead**
   BuroHappold Engineering
   August 2018 to October 2020
   London, UK
   Skills: Line management, Risk management, Planning, C#, Python, Deep learning, NoSql, Keras, Pytorch, jupyterhub.

3. **Computational/Machine Learning Engineer**
   BuroHappold Engineering
   August 2017 to August 2018
   London, UK
   Skills: Python, Supervised learning, Unsupervised learning, NoSql, Tensorflow, Pytorch, Azure, Cloud computing, Docker, C#, JavaScript, Git, Agile development, SCRUM, UI, UX, MongoDB.

4. **Intern Computational Engineer**
   BuroHappold Engineering
   April 2017 to August 2017
   Bath, UK
   Skills: Python, Visual programming, C#, MongoDB.

5. **Architect**
   Gianni Ranaulo Design
   September 2016 to December 2016.
   Dubai, UAE
   Skills: Visual Programming, Geometrical modelling, Image processing, Rendering.

6. **Computational Architect**
   Gridshell.it
   September 2015 to September 2016
   Naples, Italy
   Skills: Python, Numerical methods, Physics, Differential Equations, Spectral analysis, Acoustical modelling.

7. **Computational Architectural Assistant**
   Gridshell.it
   July 2014 to September 2015
   Naples, Italy

8. **Intern Architect**
   CRC – Constructions Restorations and Consolidations
   September 2012 to December 2012
   Naples, Italy

TEACHING EXPERIENCE

1. **Teaching consultant**
   Imperial College for **Sberbank**
   March 2020 to March 2021
   London, UK
   Class: **Computer Vision and Image retrieval**

2. **Teaching Assistant**
   University College London
   March 2020 to present
   London, UK
   Classes:
   - **UCL-COMP0089**: *Reinforcement Learning*
   - **UCL-ELEC0136**: *Data Acquisition and Processing Systems*

3. **Teaching Assistant**
   University College London Consultants for **Defence Science and Technology Laboratory**
   January 2021 to present
   London, UK
   Classes:
   - **Machine Learning**
   - **Deep Reinforcement Learning**

PUBLICATIONS

1. **Pignatelli, E.**, Toni, L., 2024. *NAVIX: Accelerated gridworld navigation with JAX.* https://github.com/epignatelli/navix. In preparation.
2. **Pignatelli, E.**, Ferret, J., Paglieri, D., Coward, S., Tim Rocktäschel, Edward Grefenstette, Toni, L., 2024. *Assessing the Zero-Shot Capabilities of LLMs for Action Evaluation in RL.* **ICML** Workshop on AutoRL. In review.
3. **Pignatelli, E.**, Ferret, J., Geist, M., Mesnard, T., van Hasselt, H., Toni, L., 2024. *A Survey of Temporal Credit Assignment in Deep Reinforcement Learning.* Accepted at **TMLR**.
4. A. Kayal, **Pignatelli, E.**, Toni, L., 2023. *Does Behavioural Diversity in Intrinsic Rewards help Exploration?.* In **NeurIPS** Second Agent Learning in Open-Endedness Workshop.
5. Ntagiantas, K., **Pignatelli, E.**, Peters, N. S., Cantwell, C. D., Chowdhury, R. A., Bharath, A. A., 2023. *Estimation of Fibre Architecture and Scar in Myocardial Tissue Using Electrograms: an in-silico study.* In *Biomedical Signal Processing and Control.*
6. Wong N., Meshkinfamfard S., Turbé V., Whitaker M., Moshe M., Bardanzellu A., Dai T., **Pignatelli E.**, Barclay W., Darzi A., Elliott P., Ward H., Tanaka R., Cooke G., McKendry R., Atchison C., Bharath A., 2022. *Machine learning to support visual auditing of home-based lateral flow immunoassay self-test results for SARS-CoV-2 antibodies.* **Communications Medicine. Nature Research**.
7. Lino, M., Cantwell, C., Fotiadis, S., **Pignatelli, E.**, Bharath, A., 2020. *Simulating Surface Wave Dynamics with Convolutional Networks.* In **NeurIPS** workshop on Interpretable Inductive Biases and Physically Structured Learning.
8. Fotiadis, S., **Pignatelli, E.**, Valencia, M.L., Cantwell, C., Storkey, A., Bharath, A.A., 2020. *Comparing recurrent and convolutional neural networks for predicting wave propagation.* In **ICLR** Workshop on Deep Neural Models and Differential Equations.
9. Di Rosario, **S., Pignatelli**, E. and Mirra, G., 2018, May. *An automated design methodology for acoustic shells in outdoor concerts.* In Proceedings of the **EuroNoise** (Vol. 2018, pp. 2123-2130).
10. **Pignatelli, E.**, Mirra, G. and Pone, S., 2017, September. *InFormer: designing forming actions in post-formed gridshells by means of Multi-Objective Genetic Algorithms.* In Proceedings of **IASS** Annual Symposia (Vol. 2017, No. 17, pp. 1-10). International Association for Shell and Spatial Structures (IASS).
11. **Pignatelli, E.**, Mirra, G., and Pone, S., 2016, September. *Computational morphogenesis and construction of an acoustic shell for outdoor chamber music.* In Proceedings of **IASS** Annual Symposia (Vol. 2016, No. 17, pp. 1-10). International Association for Shell and Spatial Structures (IASS).
12. Pone, S., Mirra, G., **Pignatelli, E.**, Lancia, D. and Colabella, S., 2016, October. *Specialised algorithms for different project stages in a post-formed timber gridshell design.* In Proceedings of the 3rd International Conference on Structures and Architecture **(ICSA)** (pp. 259-266).
13. Di Rosario, S., Parenti, B., **Pignatelli, E.**, Mirra, G., Pone, S., 2015, October. *Res, Resonant String Shell, development and design of an acoustic shell for outdoor chamber music concerts.* In Proceedings of the **Institute of Acoustics** (Vol. 37, pp. 354-373). 9th International Conference on Auditorium Acoustics.
14. **Pignatelli, E.**, Colabella, S., Rosario, S.D. and Pone, S., 2015, August. *A wooden acoustic shell for open-air chamber music concert.* In Proceedings of **IASS** Annual Symposia (Vol. 2015, No. 25, pp. 1-12). International Association for Shell and Spatial Structures (IASS).

AWARDS AND SCHOLARSHIPS

1. **UK Research and Innovation Studentship**
2. **Best Innovation 2020 – Society of Digital Engineering**
3. **Peter Lord Award**
4. **Honorary Fellowship: Authority in the subject (Cultore della Materia)**
5. **Essence of Buro Happold Award**
6. **M.A.R Scholarship – https://www.vpmusica.com/**