

# EDUARDO PIGNATELLI

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## EDUCATION

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1. **PhD in Reinforcement Learning: The Credit Assignment Problem**  
**University College London**  
November 2020 to **present**  
London, UK
2. **Master of Architecture**  
**University of Naples Federico II**  
2015  
Naples, Italy

## EXPERIENCE

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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, Strategical thinking, Planning, C#, Python, Deep learning, Data warehouse, NoSql, Keras, Pytorch, jupyterhub.
3. **Machine Learning Engineer**  
**BuroHappold Engineering**  
August 2017 to August 2018  
London, UK  
Skills: Python, Supervised learning, Unsupervised learning, NoSql, Tensorflow, Pytorch, Azure, AWS, 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

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1. **Teaching Assistant**

## University College London

March 2020 to present

London, UK Classes:

- **UCL-COMP0089: Reinforcement Learning**
- **UCL-ELEC0136: Data Acquisition and Processing Systems**

## 2. Teaching consultant for Defence Science and Technology Laboratory

University College London Consultants

January 2021 to January 2023

London, UK Classes:

- **Machine Learning**
- **Deep Reinforcement Learning**

## 3. Teaching consultant

Imperial College for Sberbank

March 2020 to March 2021

London, UK Class: **Computer Vision and Image retrieval**

## 4. Teaching Assistant

University of Naples Federico II

August 2016

Naples, Italy Class: **Technology of Architecture Studio**

## PUBLICATIONS

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1. **Pignatelli, E.**, Ferret, J., Geist, M., Toni, L., 2023. *A Survey of Temporal Credit Assignment in Deep Reinforcement Learning*. In review, Transactions of Machine Learning Research (**TMLR**).
2. A. Kayal, **Pignatelli, E.**, Toni, L., 2023. *Does Behavioural Diversity in Intrinsic Rewards help Exploration?*. In **Neurips** Second Agent Learning in Open-Endedness Workshop.
3. Ntagiantas, K., **Pignatelli, E.**, Peters, N. S., Cantwell, C. D., Chowdhury, R. A., Bharath, A. A., 2022. *Estimating Cardiac Tissue Conductivity from Electrograms with Fully Convolutional Networks*. arXiv preprint arXiv:2212.03012.
4. Wong N, Meshkinfamard 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**.
5. 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.
6. 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**.
7. 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).
8. **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).
9. Mirra, G., **Pignatelli, E.** 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).
10. 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).
11. 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.
12. **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

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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.vpmmusica.com/>**