

# Marta Emili García Segura

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## EDUCATION

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| <b>Ph.D. Student - Machine Intelligence Lab</b><br><i>Department of Computer Science, University College London</i> <ul style="list-style-type: none"><li>• Research on safety in multi-agent LLM systems.</li><li>• Advised by Prof Mirco Musolesi and Prof Stephen Hailes.</li><li>• Affiliated with the Centre for AI and the Centre for Doctoral Training in Cybersecurity.</li></ul> | <b>Sep 2023 – Sep 2027 (expected)</b><br><i>London, UK</i> |
| <b>M.Sc. Data Science and Machine Learning</b><br><i>Department of Computer Science, University College London</i> <ul style="list-style-type: none"><li>• Distinction (81%).</li><li>• Modules include: Reinforcement Learning, Natural Language Processing, Graphical Models, Applied Deep Learning and Applied Machine Learning.</li></ul>                                             | <b>Sep 2022 – Sep 2023</b><br><i>London, UK</i>            |
| <b>M.Sci. Physics with Theoretical Physics</b><br><i>Department of Physics, Imperial College London</i> <ul style="list-style-type: none"><li>• First Class Honours.</li><li>• Modules include: Probability and Statistics, Calculus, Linear Algebra, Complexity and Networks, and Information Theory.</li></ul>                                                                          | <b>Sep 2018 – Jun 2022</b><br><i>London, UK</i>            |
| <b>International Baccalaureate and Spanish Baccalaureate</b><br><i>Liceo Europeo</i> <ul style="list-style-type: none"><li>• IB final mark: 44/45 (99 percentile).</li><li>• Spanish Baccalaureate final average mark: 10/10.</li></ul>                                                                                                                                                   | <b>Sep 2016 – Jun 2018</b><br><i>Madrid, London</i>        |

## TEACHING EXPERIENCE

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| <b>Introduction to Machine Learning</b><br><i>Department of Computer Science, University College London</i><br>Postgraduate Teaching Assistant   | <b>Sep 2024 – Sep 2026</b><br><i>London, UK</i> |
| <b>Generative Artificial Intelligence</b><br><i>Department of Computer Science, University College London</i><br>Postgraduate Teaching Assistant | <b>Sep 2025 – Sep 2026</b><br><i>London, UK</i> |

## PUBLICATIONS

Emili Garcia Segura, M., Hailes, S., Musolesi, M. (2025). “Opponent Shaping in LLM Agents”. *arXiv 2510.08255*

## PROJECTS

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| <b>M.Sc. Project - Opponent Modelling for LLMs</b><br><i>Department of Computer Science, University College London</i> <ul style="list-style-type: none"><li>• Supervised by Prof Mirco Musolesi.</li><li>• Embedded preferences into LLMs within the context of game theory through prompt design.</li><li>• Independently devised and implemented a novel LLM preference inference framework based on input optimization.</li></ul> | <b>Jun 2023 – Sep 2023</b><br><i>London, UK</i> |
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**M.Sci. Project - *A Digital Universe***  
*Department of Physics, Imperial College London*

**Sep 2021 – Jun 2022**  
*London, UK*

- Supervised by Prof Fay Dowker.
- Developed and implemented 3 algorithms for Causal Set Dynamics, including a novel construction algorithm aimed at optimising growth time.
- Created and analysed metrics to find correlations with the primordial density perturbations of the universe.

**Undergraduate Research Opportunities Programme Project**  
*Department of Chemical Engineering, Imperial College London*

**Jul 2021 – Oct 2021**  
*London, UK*

- Supervised by Antonio del Río Chanona, PhD.
- Collaborated with a partner university to simulate metabolite flow in *Xanthophyllomyces dendrorhous*.
- Designed and developed a bilevel optimisation framework to maximise production of Astaxanthin in the simulated organism via Policy Gradient methods.

**Undergraduate Research Assistant**  
*Department of Chemical Engineering, Imperial College London*

**Jul 2020 – Dec 2020**  
*London, UK*

- Supervised by Antonio del Río Chanona, PhD.
- Implemented and evaluated 5 Reinforcement Learning algorithms to provide the optimal control actions for simulated reactors.

## SCHOLARLY ACTIVITIES

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**Physics Academic Representative**  
*Department of Physics, Imperial College London*

**Oct 2019 – Sep 2021**  
*London, UK*

- Joint a close-knit team of 10 academic representatives, liaised with academic faculty to facilitate a seamless transition to remote delivery mode.
- Developed organisational skills by scheduling meetings, answering queries and referring to appropriate resources to a 250 people cohort.

## SKILLS

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**Languages:** Fluent in English, Spanish and Italian.

**Programming Languages:** Proficiency in Python. Experience with R and MATLAB. Frequent use of libraries like Pytorch, JAX, Transformers, TRL, and BitsandBytes.

**Soft skills:** Public speaking (national delegate in European Youth Parliament), adaptability and time management.

**Certificates:** Neural Networks & Deep Learning, Practical Reinforcement Learning and Improving Neural Networks by Coursera.

## AWARDS & SCHOLARSHIPS

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**EPSRC Centre of Doctoral Training Studentship** - 4-year studentship for studies within the Department of Computer Science at UCL

**Dean's List** - Faculty of Engineering, University College London

**Dean's List** - Department of Physics, Imperial College London

**Faculty of Engineering UROP Bursary** - Imperial College London

**Autónoma's Top 100** - Universidad Autónoma de Madrid