

# Emily L. Hunt – Curriculum Vitae

📞 On request    ✉ emily.hunt.physics@gmail.com    🌐 emily.space    🔄 emilyhunt

## Research Profile

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Astronomer with interests in machine learning and statistics. Highly skilled programmer with 10+ years of programming experience. During my Ph.D., I used Gaia data and various machine learning techniques to create the largest ever catalogue of star clusters in the Milky Way. I am looking to work on applications of machine learning to large astronomical datasets such as Gaia, Vera Rubin, and JWST surveys.

## Education & Employment

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**2025-29, Postdoc, University of Vienna, Austria**

**2025-25, Postdoc, Max Planck Institute for Astronomy, Germany**

**2023-24, Postdoc, Heidelberg University, Germany**

**Ph.D. 2023, Heidelberg University, Germany**

Thesis: “Improving the census of open clusters in the Milky Way with data from Gaia”

Advisor: S. Reffert

**M.Phys. 2019, University of Bath, United Kingdom**

Thesis: “Inference of photometric galaxy redshifts with a mixture density network”

Advisor: S. Wuyts

## Selected Presentations

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| <b>Seminar</b> – Lund University, Sweden                                       | (upcoming) 2025 |
| <b>Talk</b> , Bridging Scales – Matera, Italy                                  | (upcoming) 2025 |
| <b>Invited talk</b> , EAS (SS45) – Cork, Ireland                               | 2025            |
| <b>Talk</b> , EAS (S9) – Cork, Ireland   | 2025            |
| <b>Talk</b> , EAS (S1) – Cork, Ireland   | 2025            |
| <b>Colloquium</b> – ARI, Heidelberg, Germany                                   | 2025            |
| <b>Talk</b> , Heidelberg-Harvard Star Formation Workshop – Heidelberg, Germany | 2024            |
| <b>Seminar</b> , Stars seminar – Geneva, Switzerland                           | 2024            |
| <b>Talk</b> , MW Methods Workshop – Ringberg, Germany                          | 2024            |
| <b>Invited review</b> , EAS (SS33) – Padova, Italy                             | 2024            |
| <b>Talk</b> , EAS (S4) – Padova, Italy   | 2024            |
| <b>Invited talk</b> , SFML2024 – Budapest, Hungary                             | 2024            |
| <b>Colloquium</b> – University of Vienna, Austria                              | 2024            |
| <b>Talk</b> , From star clusters to field populations – Florence, Italy        | 2023            |
| <b>Seminar</b> , CEFGA – Teruel, Spain (online)                                | 2023            |
| <b>Talk</b> , .Astronomy 12 – Flatiron Institute, New York, NY, USA            | 2023            |

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| <b>Colloquium</b> , Königstuhl Colloquium – MPIA, Heidelberg, Germany       | 2023 |
| <b>Talk</b> , National Astronomy Meeting – Coventry, England, UK            | 2022 |
| <b>Invited talk</b> , EAS (SS34) – Valencia, Spain                          | 2022 |
| <b>Talk</b> , EAS (SS24) – Valencia, Spain                                  | 2022 |
| <b>Talk</b> , EAS (SS15) – Valencia, Spain                                  | 2022 |
| <b>Talk</b> , LGBTQ+ STEMinar – University of Glasgow, Scotland, UK         | 2022 |
| <b>Seminar</b> , Galaxy group – ARI, Heidelberg, Germany                    | 2021 |
| <b>Seminar</b> , Astronomy group – University of Hertfordshire, England, UK | 2021 |
| <b>Talk</b> , Star Clusters: The Gaia Revolution                            | 2021 |
| <b>Invited talk</b> , EAS (SS32) – Leiden, Netherlands                      | 2021 |
| <b>Talk</b> , EAS (S15) – Leiden, Netherlands                               | 2021 |
| <b>Seminar</b> , SFB 881 – Heidelberg, Germany                              | 2021 |
| <b>Seminar</b> , Gaia group – University of Vienna, Austria                 | 2021 |
| <b>Seminar</b> , Astronomy group – University of Bath, England, UK          | 2020 |
| <b>Seminar</b> , Milky Way group – MPIA, Heidelberg, Germany                | 2020 |

## Open-source software

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**Bluesky Astronomy feeds** – lead developer of [astronomy community feeds](#) on Bluesky social network, which are used daily by hundreds of astronomers to interact  
**ocelot** – lead developer of an upcoming [star cluster analysis Python package](#)

## Teaching & Supervision

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| <b>Machine learning*</b> , MWGaia Dr. Schl., University of Coimbra, Portugal | 2024      |
| <b>Astronomy Lab Course</b> , Heidelberg University                          | 2021      |
| <b>Introduction to Astronomy I</b> , Heidelberg University                   | 2020      |
| <b>Co-supervisor of MSc student</b> , Heidelberg University                  | 2020-2021 |

\* = as a primary lecturer

## Awards

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| <b>Ernst Patzer Award</b> for an excellent publication ( <a href="#">press release</a> ) | €2000 – 2023 |
| <b>University of Bath IMI Undergraduate Research Internship</b>                          | £2000 – 2018 |

## Selected Outreach

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| <b>Invited talk</b> – OUTer SPACE, Max Planck Institute for Astronomy          | 2023 |
| <b>Interviewed for article</b> – Space.com                                     | 2021 |
| <b>Interviewed for article</b> – Thrillist.com                                 | 2020 |
| <b>Radio interview</b> – Deutschlandfunk (public radio) & Neue Zürcher Zeitung | 2020 |

## Meeting organization & service

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| <b>Co-Chair</b> at EAS 2025: Symposium S3 (Cork, Ireland)    | 2025    |
| <b>SOC</b> for Roman Galactic Plane Survey Workshop (online) | 2025    |
| <b>SOC</b> for .Astronomy 13 (Madrid, Spain)                 | 2024    |
| <b>SOC</b> for .Astronomy 12 (New York, NY, USA)             | 2023    |
| <b>Reviewer</b> for A&A, AJ, MNRAS                           | ongoing |

## Workshops Attended

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| <b>.Astronomy 13</b> – ESAC, Madrid, Spain                             | 2024 |
| <b>.Astronomy 12</b> – Flatiron institute, New York, NY, USA           | 2023 |
| <b>CZS school on Scientific Machine Learning</b> – Heidelberg, Germany | 2023 |
| <b>GaiaUnlimited Community Workshop</b> – Heidelberg, Germany          | 2022 |
| <b>..Astronomy</b> – online  | 2020 |

## Relevant expertise

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### Programming languages

**Python:** expert (e.g. numpy, tensorflow, emcee)  
**JavaScript:** intermediate (Svelte, SvelteKit)  
**C/C++:** intermediate  
**Java:** basic

### Tools and scripting languages

**Git/GitHub:** expert  
**LaTeX:** expert  
**ADQL/SQL:** expert  
**HTML/CSS:** intermediate

### Languages

**English:** native speaker  
**German:** intermediate