Emily L. Hunt – Curriculum Vitae

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Research Profile

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

2023-2024, 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

Talk, From star clusters to field populations – Florence, Italy	(upcoming)	2023
Seminar, CEFCA – Teruel, Spain (online)		2023
Talk, .Astronomy 12 – Flatiron Institute, New York, NY, USA		2023
Colloquium, Königstuhl Colloquium – MPIA, Heidelberg, Germany		2023
Talk, National Astronomy Meeting – Coventry, England, UK		2022
Invited talk, EAS (SS34) – Valencia, Spain		2022
Talk, EAS (SS24) – Valencia, Spain		2022
Talk, EAS (SS15) – Valencia, Spain		2022
Talk, LGBTQ+ STEMinar – University of Glasgow, Scotland, UK		2022
Seminar, Galaxy group – ARI, Heidelberg, Germany		2021
Seminar, Astronomy group – University of Hertfordshire, England, UK		2021
Talk, Star Clusters: The Gaia Revolution		2021
Invited talk, EAS (S32) – Leiden, Netherlands		2021
Talk, EAS (S15) – Leiden, Netherlands		2021
Seminar, SFB 881 – Heidelberg, Germany		2021

Seminar, Gaia group – University of Vienna, Austria 2021
Seminar, Astronomy group – University of Bath, England, UK 2020
Seminar, Milky Way group – MPIA, Heidelberg, Germany 2020

Selected Outreach

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

Open-source software

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 open cluster analysis Python package

Awards

Ernst Patzer Award for an excellent publication (press release) €2000 – 2023
University of Bath IMI Undergraduate Research Internship £2000 – 2018

Teaching & Supervision

Astronomy Lab Course, Heidelberg University 2021
Introduction to Astronomy I, Heidelberg University 2020
Co-supervisor of MSc student, Heidelberg University 2020-2021

Meeting organization & service

SOC for .Astronomy 13 2024
SOC for .Astronomy 12 2023
Project leader at CZS school on Scientific Machine Learning in Astrophysics 2023
Session leader at GaiaUnlimited Community Workshop 2022
Reviewer for A&A ongoing

Workshops Attended

From star clusters to field populations – Florence, Italy 2023
.Astronomy 12 – Flatiron institute, New York, NY, USA 2023
CZS school on Scientific Machine Learning – Heidelberg, Germany 2023
GaiaUnlimited Community Workshop – Heidelberg, Germany 2022
..Astronomy – online 2020

Relevant expertise

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
HTML/CSS: intermediate
ADQL/SQL: basic

Languages

English: native speaker
German: intermediate