Daniel Foreman-Mackey

Research Scientist, Center for Computational Astrophysics, Flatiron Institute
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Lead developer and core maintainer of many popular open source packages including *emcee*, *tinygp*, *corner.py*, and *showyourwork*; a full list can be found on GitHub.

As of 2025-11-01[1], published 110 refereed papers with 28,054 total citations, and an h-index of 51; a complete listing can be found on Google Scholar.

Experience

Center for Computational Astrophysics, Flatiron Institute, New York, NY

Sep 2022 – present *Research Scientist*

Sep 2017 – Sep 2022 *Associate Research Scientist*

Associate professor equivalent faculty member. Co-leader of "Astronomical Data" group with a steady state of about 10 full time researchers; managed and mentored 8 postdoctoral research fellows, and 9 graduate student researchers. Developed, released, and maintain *exoplanet*, a suite of Python libraries for probabilistic inference with large astronomical time series datasets built on top of *PyMC*; and *tinygp*, a JAX-based Gaussian Process modeling framework with novel algorithms for scalable linear algebra. Co-developed and lead the maintenance of *showyourwork*, a workflow management system for reproducible scientific publishing. Made contributions to large open source projects including *AstroPy*, *PyMC*, *JAX*, and *NumPyro*.

The Journal of Open Source Software

Nov 2022 – present *Associate Editor-in-Chief, Astrophysics & Space Sciences*

Nov 2019 – Nov 2022 *Topic Editor, Astrophysics*

Manage a team of 10 editors to handle all submissions within the areas of Astrophysics & Space Sciences. Oversee the publication of accepted submissions, and make high-level editorial decisions for the journal.

Department of Astronomy, University of Washington, Seattle, WA

Sep 2015 – Sep 2017 *NASA Sagan Postdoctoral Fellow*

Postdoctoral research supported by prestigious and competitive national fellowship. Developed, released, and maintained *celerite*, an exact structure-exploiting factorization and inversion algorithm with linear scaling for a class of matrices commonly encountered in Gaussian Process modeling, and a C++/Python library for its use. Co-advised 3 PhD student theses.

Department of Physics, New York University, New York, NY

Sep 2010 – Sep 2015 *Graduate Research Assistant*

Developed, released, and maintained several high-impact open source projects including *emcee*, the most widely used probabilistic programming tool in astrophysics with over 10,000 citations; *george*, a C++-accelerated Python library for scalable Gaussian Processes regression using approximate linear algebra; *corner.py*, a popular plotting library for assessing probabilistic models with nearly 2000 citations; and *daft*, a *matplotlib* extension for generating publication-ready probabilistic graphical models. Led the discovery of more than 20 new planets orbiting stars outside our Solar System.

Education

PhD 2015, Department of Physics, New York University. Advisor: Hogg

MSc 2010, Department of Physics, Queen's University, Canada. Advisor: Widrow

BSc 2008, Department of Physics, McGill University, Canada.

[1] Publication data collected from NASA Astrophysics Data System