Yuxi (Lucy) Lu

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EDUCATION

- Graduate student. Columbia University, New York, NY. **Aug 2019 - present**
- Bachelor of Science, Honors Degree. University of Maryland, College Park, MD. **Aug 2014 - May 2018**
- **Jan 2019**, online Machine Learning course by Stanford University, passed with 95.7%

SUMMARY OF SKILLS

- Computer Programing: C++, C, Linux, Matlab, Python (Pandas, scikit-learn), Jupyter notebook, Octave, supervised/unsupervised machine learning, Git (github: https://github.com/lyx12311)
- Spoken/Written Languages: English (fluent), Mandarin Chinese (fluent)

FELLOWSHIPS

- 2021 - present RGGS Graduate Student Fellowship
- 2022 Kade Fellowship
- 2019 - 2021 Columbia University Graduate Fellowship

TRAVEL GRANTS

- 2019 Raynor L. Duncombe Student Research Prize

RESEARCH EXPERIENCE

PhD candidate, Advisor: Ruth Angus & Melissa Ness, Department of Astronomy, Columbia University, Manhattan, New York & Department of Astronomy, American Museum of Natural History, Central Park West, Manhattan, New York, **Sep. 2021 - present**

TEACHING EXPERIENCE

Head Teaching Assistant, Department of Astronomy, Columbia University in the City of New York, New York, New York, **Aug 2021 - June 2022**

Teaching Assistant, Department of Astronomy, Columbia University in the City of New York, New York, New York, **Aug 2019 - June 2021**

Teaching Assistant, Department of Astronomy & Department of Physics, University of Maryland, College Park, Maryland, **May 2016 - May 2018**

Tutor, Department of Astronomy, College Park, Maryland, **Feb. 2017 - May 2018**

COMMUNITY SERVICE EXPERIENCE

Seminar committee member, Department of Astronomy, American Museum of Natural History, Central Park West, Manhattan, New York, **Sep. 2022 - present**

SGMA committee member, American Astronomical Society, **Aug 2021 - present**

Graduate student representative for faculty search, Astronomy department, Columbia University in the City of New York, New York, New York. **2022**

INVITED TALKS

1. **Yuxi Lu**. Ages for old low-mass K/M dwarfs with gyrochronology and spectroscopy. Seminar at European Space Research and Technology Centre. Noordwijk, Netherlands. September 2022.
2. **Yuxi Lu**. Bridging the gap — uncovering the behavior of the intermediate period gap with ZTF. Toulouse, France. July 2022.
3. **Yuxi Lu**. *Properties of the high- and low-alpha disk & the age-metallicity relation in the Galaxy.* Galactic archeology group meeting at MPIA. Online. April 2022.
4. **Yuxi Lu**. *Properties of the high- and low-alpha disk & the age-metallicity relation in the Galaxy.* GASP group meeting at ANU. Online. March 2022.
5. **Yuxi Lu**. *Gyro-kinematic ages for around 30,000 Kepler stars.* FIFTY YEARS OF THE SKUMANICH RELATIONS. Boulder, Colorado. March 2022.
6. **Yuxi Lu**. *Astraea: A Random Forest Algorithm to Predict Long Rotation Periods of TESS Stars with 27-Day Light Curves*. TESS science collaboration meeting. Online. 2020.

PUBLICATIONS

First author peer-reviewed publications:

1. **Yuxi Lu**, et al., *There is No Place Like Home — Finding Birth Radii of Stars in the Milky Way.* Submitted to Nature., in review.
2. **Yuxi Lu**, et al., *Bridging the gap — uncovering the intermediate period gap with ZTF.* A.J., accepted.
3. **Yuxi Lu**, Tobias Buck, and Melissa K. Ness. *Exploring the reliability and limitations of inferring birth radii with NIHAO-UHD simulations*. MNRAS., 515, L34., 2022
4. **Yuxi Lu**, Tobias Buck, and Melissa K. Ness. *Turning Points in the Age-Metallicity Relations — Collective Effects from Radial Migration and Major Mergers*. MNRAS. 512, 2890., 2022
5. **Yuxi Lu** et al., *Similarities behind the high- and low-a disc: small intrinsic abundance scatter and migrating stars*. MNRAS., 512, 2890., 2022
6. **Yuxi Lu**. et al., *Gyro-Kinematic Ages for around 30,000 Kepler Stars*. A. J., 161:189., 2021.
7. **Yuxi Lu**. et al., *Astraea: A Random Forest Algorithm to Predict Long Rotation Periods of TESS Stars with 27-Day Light Curves*. A.J., 160:168., 2020.
8. **Yuxi Lu**, Ronald Ballouz, and Derek Richardson. *Exploring Shear Free Ringlet Formation with Direct Simulations of Saturn's A and B Rings*. A. J., 156:129., 2018.

Other peer-reviewed publications:

1. Victor See, **Yuxi Lu**, et al. *The impact of stellar metallicity on rotation and activity evolution in the Kepler field using gyro-kinematic ages*. In prep.
2. Ruth Angus. et al. *The 3D Galactocentric Velocities of Kepler Stars: Marginalizing Over Missing Radial Velocities*. A.J.,164, 25., 2022.
3. David, Trevor J. et al. *Small Planet Sizes Evolve Over Billions of Years*. AJ, 161, 265. 2020.
4. Kirsten Blancato, Melissa Ness, Daniel Huber, **Yuxi Lu**, Ruth Angus. *Data-driven derivation of stellar properties from photometric time series data using convolutional neural networks*. ArXiv, 2020.
5. Ruth Angus. et al. *Exploring the evolution of stellar rotation using Galactic kinematics*. A.J., 160, 90., 2020.
6. S. C. Kang. et al. *On-orbit performance of the top and bottom counting detectors for the ISS-CREAM experiment on the international space station*. Advances in Space Research, Volume 64, Issue 12, p. 2564-2569. 2019.
7. Jik K. Lee. et al. *The ISS-CREAM Silicon Charge Detector for identification of the charge of cosmic rays up to $Z = 26$: Design, fabrication and ground-test performance*. Astroparticle Physics, Volume 112, p. 8-15. 2019.

Published Conference Proceeding:

1. Nicolas Picot-Clémente, Eun-Suk Seo, Andrew Strong, **Yuxi Lu**. *Study of Cosmic-Ray Light Nuclei Transport with GALPROP* . International Cosmic Ray Conference, Netherlands, July, 2015. PoS(ICRC2015)555.

Outreach talks:

1. **Yuxi Lu**, et al. *Do robots dream of light curves? Using machine learning to measure rotation periods of stars*. Columbia Astronomy outreach. NYC. March, 2020.
7. **Yuxi Lu**, et al. *Do robots dream of light curves? Using machine learning to measure rotation periods of stars*. AMNH high school class. NYC. March, 2020.