Opportunity Title: Big Data Mining and Artificial Intelligence in the Era of Large Astronomical Surveys
Opportunity Reference Code: 0206-NPP-MAR26-GSFC-Interdisc

Organization	National Aeronautics and Space Administration (NASA)
Reference Code	0206-NPP-MAR26-GSFC-Interdisc
How to Apply	All applications must be submitted in [Zintellect](#)

Please visit the NASA Postdoctoral Program website for application instructions and requirements: [How to Apply | NASA Postdoctoral Program (orau.org)](#)

A complete application to the NASA Postdoctoral Program includes:

1. Research proposal
2. Three letters of recommendation
3. Official doctoral transcript documents

Application Deadline	4/2/2026 6:00:59 PM Eastern Time Zone
Description	**About the [NASA Postdoctoral Program](#)**

The [NASA Postdoctoral Program (NPP)](#) offers unique research opportunities to highly-talented scientists to engage in ongoing NASA research projects at a NASA Center, NASA Headquarters, or at a NASA-affiliated research institute. These one- to three-year fellowships are competitive and are designed to advance NASA's missions in space science, Earth science, aeronautics, space operations, exploration systems, and astrobiology.

Description:

The 2010 Decadal Survey; New Worlds, New Horizons in Astronomy and Astrophysics (National Research Council, 2010), prescribed the Wide-Field Infrared Survey Telescope (WFIRST) as its highest ranked large space project for the decade. WFIRST, conceived as a filled aperture, wide field, near infrared flagship-class observatory, was proposed to settle fundamental questions about the nature of dark energy and to complete the census of all possible types of exoplanets in the Milky Way galaxy using wide-field imaging onto a very large, dense detector array. To accomplish this, the mission will accumulate 256 trillion pixel images at a rate of one every 15 minutes for analysis.

The Transiting Exoplanet Survey Satellite (TESS), launched in early Spring of 2019, is conducting wide-field imaging of nearly the entire celestial sphere in search of exoplanets that eclipse their host star. Tiling the sky over a period of 2 years using four large detector arrays, TESS will recover about 2.5 million photometric lightcurves for each of its 26 sectors before moving on to a survey of the Galactic plane. The community, using a crude box-least squares method, is searching this vast trove for the faint signature of exoplanets - simply discarding other sources of stellar variability as noise.

These two missions and others under consideration have one thing in

common – very large, very complex data sets replete with observatory systematics and elusive, tenuous astrophysical signals. Recognizing the significant challenge this raises for the science return of TESS, WFIRST and future survey missions, NASA seeks a post doctoral fellow with the necessary data science skills to formulate a systematic approach to extraction of science in the face of extremely high data rates or in large complex archives.

Examples of areas of interest include:
• Machine learning for classification of astrophysical signals
• Artificial intelligence augmentation of spaceborne observatories to reduce data transmission rates
• Migration of science processing to cloud-based computing
• Development of highly accessible data bases with in situ computing
• Graphics Processing Unit acceleration of scientific data processing

Candidates need not have a strong background in astronomy or physics to apply. Candidates must have experience or training in one or more of the following skill sets in the service of, or scalable to very large data archives or high data accumulation rates:

• Data science
• Computer science
• Statistics
• Machine learning
• Artificial intelligence
• Database design

Location:
Goddard Space Flight Center
Greenbelt, Maryland

Field of Science: Interdisciplinary/Other

Advisors:
Richard Barry
richard.k.barry@nasa.gov
301-286-1753

Applications with citizens from Designated Countries will not be accepted at this time, unless they are Legal Permanent Residents of the United States. A complete list of Designated Countries can be found

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at: https://www.nasa.gov/oiir/export-control.

Eligibility is currently open to:

- U.S. Citizens;
- U.S. Lawful Permanent Residents (LPR);
- Foreign Nationals eligible for an Exchange Visitor J-1 visa status; and,
- Applicants for LPR, asylees, or refugees in the U.S. at the time of application with 1) a valid EAD card and 2) I-485 or I-589 forms in pending status

Questions about this opportunity? Please email npp@orau.org

Point of Contact	Mikeala
Eligibility Requirements	• **Degree:** Doctoral Degree.