Leibniz-Institut für Astrophysik Potsdam

The Leibniz Institute for Astrophysics Potsdam (AIP) continues the tradition of the Astrophysical Observatory Potsdam and the Berlin Observatory. It is located in the beautiful Potsdam/Babelsberg area, at the South-western border of the Berlin metropolitan area. About 130 scientists work on a variety of astrophysical topics covering the full range from solar physics to cosmology. Potsdam is also the home of the Albert-Einstein Institute for Gravitational Physics, the Physics & Astronomy Department of Potsdam University and several other research institutions.

The Leibniz Institute for Astrophysics Potsdam (AIP) invites applications for a

Student research assistant with a background of computer science in X-ray astronomy (m/f/d)

The successful candidate is expected to help in classifying a large number of images via machine learning (e.g., PyTorch) and automated web searches for astronomical sources.

The data are obtained with the newly launched X-ray telescope eROSITA onboard the SRG satellite. This instrument is revolutionizing X-ray astronomy – in its first year of operation, eROSITA has discovered more new sources than have been previously found in 60 years of X-ray astronomy. The research project, led by Dr. Mirko Krumpe, is to study the 3 million accreting super-massive black holes that eROSITA will discover. The instrument observes the whole sky several times over the next few years, meaning that we can search for very rare cases in which the accreting super-massive black holes dramatically change their emission state.

Using images from different eROSITA all-sky scans, the student research assistant will classify via machine learning (e.g., PyTorch) the cases in which the black hole is changing significantly. Once these events have been found, a number of astrophysical web pages have to be accessed and information collected from all these resources. As this task is consistently repeated, it can be streamlined by coding an automatic web search. Finally, all the information has to be presented in a summary page for each object. Therefore, we encourage applications from computer science students with experience in automatic image classification and automatic web searches. The following additional skills will be advantageous for the position: previous experience in the required tasks, interest in astronomy, and English language skills.

We aim to fill this position by January 2021. Depending on the performance of the candidate the position can be renewed every half a year. The salary is based on the applicant's level of studies and the amount of work time can be flexible (between 8 and 19 hours per week). This position offers unique insights into state-of-the-art astrophysics and a bachelor or master thesis project could be a logical continuation.

To apply, please send a single PDF file to **bewerbung_2020-22@aip.de** including a cover letter, a statement of previous experiences on image classification and automatic web searches (max 1 page), and a curriculum vitae (max 1 page). Applications received by December 9, 2020 will be given full consideration. Later applications might be considered until the position is filled.

The AIP is an equal opportunity employer who values diversity and particularly encourages women and other underrepresented groups to apply. Inquiries about the position should be sent to Dr. Mirko Krumpe (mkrumpe@aip.de ; https://www.aip.de/Members/mkrumpe).