

Título/Title:

An online catalogue of exoplanet data

Area:

Exoplanets

Orientador/Supervisor:

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Local do Estágio/Host Place:

IA-Porto (Faculdade de Ciências da Universidade do Porto).

Descrição/Description:

Building astronomical catalogues and databases is an activity almost as old as astronomy itself. Many ancient civilizations compiled lists of star names and constellations, while modern catalogues can contain millions of entries and often define their own data query languages. As the number of known exoplanets grew, it became useful to list them, together with their measured properties, in order to easily study the population of planets as a whole. Two of the best known catalogues are the *Exoplanets Encyclopaedia* and the *NASA Exoplanet Archive*, which are now routinely used by virtually every scientist in the field.

The goal of this project is to extend one of the existing exoplanet catalogues by including the actual datasets that were used for the detection of each planet. The student will first focus on compiling the radial-velocity (RV) data publicly available for each of the exoplanet systems, and defining the correct structure to include these data in the catalogue. This process will then be automated so that new detections can be easily added in the future. When these tasks are completed, the student will learn how to use the RV data to find the signal of an exoplanet.

Requisitos/Requirements:

The project does not require prior knowledge of astronomy and/or exoplanets. The candidate is expected to have working knowledge of a computer programming language (with preference for Python). Previous knowledge and/or interest in web development will be valued.