ADA-X 21/09/2023 Hersonissos

# ADA-X Datathon

### Scenario



- edge statistical tools to a series of astronomical problems.

King Minos has just opened a new research grant for 100,000,000 drachma to apply cutting-

The evaluation committee are looking for diverse teams with forward thinking solutions.

The only problem is that the deadline for submitting proposals is tonight at midnight!

ADA-X Datathon



### Scenario



- collaborators for your proposal. 😎
- The clock is ticking!

Fortunately, you have just attended a networking event at a summer school in Crete and have met several researchers with different backgrounds. So, you will have no problem finding





#### asks

- everyone has a well defined role within your project.
- 2. Study the problems proposed by King Minos and look at some existing solutions.
- 3. Discuss possible approaches with your team and formalise a plan.
- 4. Prepare a **5min** (max 5 slide) **proposal presentation**.
- 5. Choose one person from your team to present your proposal on Friday morning.
- 6. Submit your proposal by sending a PDF of the slides to Sam & Greg by 23:59 on 21/09/2023.

1. Find two collaborators (i.e. teams of 3 people) to join your proposal and make sure that





#### lasks

When preparing your 5min presentation be sure to:

- Come up with a name for your project.
- Introduce your team, their relevant backgrounds and roles.
- Present the main methodologies/tools that your project will employ.
- State the impact (scientific, social and/or environmental) you expect your project to make
- Include any support materials (plots, etc.) that could help sell your proposal.
- Explain how you plan to spend the grant money if the proposal is accepted.





# Evaluation

the project they would most like to fund based on the following criteria:

- Novelty of the proposed solution. [Is this state of the art?]
- Feasibility of the proposed solution. [Can this really be done?]
- **Diversity** of the project members. [Is this a well balanced team?]
- Management of resources. [Are they putting the money to good use?]
- **Clarity** of the proposal. [Was the project presented well?]

## The evaluation committee will consist of all ADA-X participants who will vote anonymously for





# Example Project

Redshift estimation from low resolution Euclid spectra

- Need accurate spectroscopic redshifts for galaxy clustering analysis
- Obtaining redshifts is not trivial (readout noise, contaminating light, Poison noise)
- Lyman-alpha emission out to z = 1.9
- Convolution of the source and its spatial profile  $\rightarrow$  overlap of sources and self-contamination effects







# Example Project

- CNN classification of simulated low-resolution Euclid-like spectra
- Wavelength range:  $11000\text{\AA} \le \lambda \le 20000\text{\AA}$ ;  $\Delta \lambda = 5\text{\AA}$
- Redshift range:  $1 \le z \le 1.8$  split into 800 classes
- <u>https://github.com/gtsagkatakis/ADAX-datathon</u>
- See Greg's slides



