

The Bucharest University of Economic Studies

No./Date: 11867/25.08.2023

## ANNOUNCEMENT

The Bucharest University of Economic Studies organises a selection for the following position:

**PhD researcher - 2 positions**, for the project „*CauseFinder: Causality in the Era of Big Data and AI and its applications to innovation management*”- 760049/23.05.2023, grant application no. 268/29.11.2022.

Part-time 80 hours/month distributed unequally, gross hourly salary 86.50 lei, fixed period of 12 months with evaluation and possibility of extension until June 30, 2026.

A. To be eligible, candidates must meet the following general and specific conditions:

### 1. General conditions:

- a) has the minimum age regulated by the legal provisions;
- b) has full exercise capacity;
- c) fulfills the conditions of studies and, as the case may be, seniority or other specific conditions according to the requirements of the position;
- d) has not been definitively convicted for committing a crime against humanity, against the state or against the authority, at job or linked to the job, which prevents the administration of justice, forgery or acts of corruption or a crime committed with intent, which would make it incompatible with the exercise of the function, except for the situation in which rehabilitation intervened.

### 2. Specific conditions:

- a) the level of studies: higher education completed with a master's degree or equivalent;
- b) PhD student enrolled in an institution organising doctoral studies in Romania (the list of eligible institutions can be consulted here: [https://www.edu.ro/IOSUD\\_2022](https://www.edu.ro/IOSUD_2022));
- c) field of study: economics, business administration, cybernetics and statistics, economic informatics, finance or similar;
- d) other specific conditions:
  - Specific requirements:
    - i. Solid knowledge of statistics and probability, graph theory, causal modeling, probabilistic reasoning in artificial intelligence, anomaly detection in data mining;

- ii. Experience in data analysis, statistical and econometric modeling, using Python;
  - iii. Good skills in developing and writing scientific papers;
  - iv. English language skills at an advanced level;
  - v. Good organisational, communication and collaboration skills with international and multidisciplinary teams.
- Specific responsibilities:
    - i. Collaboration with the project team to carry out research activities, including reports, studies and scientific articles;
    - ii. Creation of algorithms, code snippets and application of statistical methods to achieve the desired results;
    - iii. Collaboration with the project team to disseminate the partial and final results;
    - iv. Supporting the project team in achieving the assumed objectives.

**B. The selection will consist of:**

**1. Evaluation of applications;**

**2. Interview:** structured interview (in case of less than 2 applications submitted, the competition committee can decide to simplify the procedure and carry out the selection without conducting the interview stage):

- *date and time of the interview:* will be communicated simultaneously with the results of the applications evaluation;
- *place of the interview:* will be communicated simultaneously with the results of the applications evaluation.

The selection steps are eliminatory, the minimum score obtained for each step is 70 points.

**C. List of subjects and bibliography:**

**1. List of subjects:**

- a) Artificial intelligence
- b) Causal modeling of big data
- c) Knowledge graphs
- d) Machine learning

- e) Explainable artificial intelligence
- f) The innovation life cycle

## **2. Bibliography:**

1. GDELT project. <https://www.gdeltproject.org>
2. Charlie Loyd. „Near-realtime Earth observation resources”. <https://planet.parts>
3. Gregor Leban, Blaž Fortuna, Janez Brank, Marko Grobelnik. „Event registry: learning about world events from news”. Proceedings of the 23rd International Conference on World Wide Web, Seoul, Korea, 7–11 April 2014, pp. 107–110. <http://eventregistry.org/>
4. Judea Pearl. Causality. Cambridge University Press, 2009.
5. Emre Kiciman, Scott Counts, Melissa Gasser. „Using longitudinal social media analysis to understand the effects of early college alcohol use”. Proceedings of the Twelfth International Conference on Web and Social Media, ICWSM 2018, Stanford, California, USA, June 25–28, 2018, pp. 171–180.
6. William L. Hamilton, Payal Bajaj, Marinka Zitnik, Dan Jurafsky, Jure Leskovec. „Embedding logical queries on knowledge graphs”. Va fi publicat în NIPS 2018. <https://arxiv.org/abs/1806.01445>, accesat în 6 noiembrie 2018.
7. Ian Goodfellow, Yoshua Bengio, Aaron Courville. Deep Learning. The MIT Press, 2016.
8. Roman, Dumitru, et al. „The euBusinessGraph ontology: A lightweight ontology for harmonizing basic company information.” Semantic Web 13.1 (2022): 41-68.
9. Gulnes, Maren Parnas, Ahmet Soylu, Dumitru Roman. „A graph-based approach for representing, integrating and analysing neuroscience data: The case of the murine basal ganglia.” Data Technologies and Applications (2021).
10. Soylu, Ahmet, et al. „TheyBuyForYou platform and knowledge graph: Expanding horizons in public procurement with open linked data.” Semantic Web Preprint (2022): 1-27.

### **D. The application will contain:**

1. Content (Opis);
2. Registration form, addressed to the university rector;
3. Declaration regarding the existence/non-existence of incompatibility situations;

4. Copy of the identity document or any other document that certifies the identity, according to the law, as the case may be;
5. Copy of marriage certificate or proof of name change, if the candidate has changed the name (proof of name change);
6. Curriculum vitae using the European template ([www.cveuropean.ro/cv-online.html](http://www.cveuropean.ro/cv-online.html)), in English – dated and signed on each page;
7. Copies of documents certifying the level of studies and other documents certifying the completion of specialisations, as well as copies of documents certifying the fulfillment of the specific conditions provided for occupying the position;

**E. Contact:**

Applications will be submitted until 04.09.2023 at 16:00 EET, at Registratura ASE.

Contact person: Giani Grădinaru – e-mail: [giani.gradinaru@csie.ase.ro](mailto:giani.gradinaru@csie.ase.ro)

**F. Calendar of the competition:**

<b>No. crt.</b>	<b>Tasks</b>	<b>Date</b>
1.	Announcement publication	25.08.2023
2.	Applications submission at Registratura ASE and validation of the submitted documents.	Until 04.09.2023
3.	Selection of applications by the competition committee	05.09.2023
4.	Publication of the selection results.	06.09.2023
5.	Submission of appeals regarding the selection results.	07.09.2023
6.	Publication of the appeals resolution.	08.09.2023
7.	Holding the interview	11.09.2023
8.	Communication of results after the interview	12.09.2023
9.	Submission of appeals regarding the interview results.	13.09.2023
10.	Publication of the appeals resolution.	14.09.2023
11.	Publication of the competition's final result.	14.09.2023
12.	Appointment	After the Administrative Board approval.