Bucharest University of Economic Studies

Date: 29th of December, 2025

ANNOUNCEMENT

Bucharest University of Economic Studies is currently holding a selection process for **four Doctoral Researchers (5/6/7/8)** positions within the project „**JobKG – A Knowledge Graph of the Romanian Job Market based on Natural Language Processing**", grant contract no. 178/31.07.2023.

The employment offered for this position is part-time, with a maximum of **80** working hours per month, which may be unevenly distributed.

The gross hourly wage for this position is **87,00 lei/ hour.**

The individual contract of employment will be concluded for a fixed-term period of time until the **30th of June, 2026**.

A. In order to enter the selection, candidates need to fulfil the following **general and specific conditions:**

1. General conditions:
   a) has Romanian citizenship, citizenship of other member states of the European Union, of states belonging to the European Economic Area and/or foreign states as defined by art. 2 lit. a) of GEO 194/12.12.2002 with subsequent amendments and completions, respectively, persons who do not have Romanian citizenship, citizenship of another EU member state or citizenship of the Swiss Confederation;
   b) has the minimum age regulated by the legal provisions;
   c) has full capacity;
   d) has a relevant state of health for the position he is applying for.
   e) meets the conditions of education and, where appropriate, seniority or other specific conditions by the requirements of the post to be filled;
   f) has not been convicted of a crime against humanity, against the State or authority, or of an offence committed in the course of or in connection with the performance of his or her duties which obstructs the course of justice, or forgery or corruption, or of an offence committed with intent which would make him or her incompatible with the performance of his or her duties, unless he or she has been rehabilitated.

2. Specific conditions:
   a) level of studies: higher education completed with a master's;
   b) area of studies: economics/ business administration/ cybernetics and statistics/ economic informatics/finance/statistics or similar;
   c) PhD student enrolled in the institutions organizing doctoral studies in Romania (the list of eligible institutions can be consulted here: https://www.edu.ro/IOSUD_2022)
   d) skills and abilities:
       i. knowledge of the English language: at least an intermediate level
       ii. coordination, planning and organization skills
       iii. capacity for analysis and synthesis

iv.   the ability to work independently and within a team
v.   experience in using statistical methods for data analysis and interpretation
vi.   result orietation
vii.   deadline management skills
viii.   communication and collaboration skills within an international and interdisciplinary project team.

Responsibilities:

i.   to carry out advanced research activities in the fields that are related to the theme of the project: artificial intelligence, digitization of the labor market, semantic technologies, big data;

ii.   to contribute to the design and implementation of the JobKG knowledge graph;

iii.   qualitative and quantitative analysis of the labor market using statistical methods and data analysis tools;

iv.   development or application of the agent based models for the simulation of „what-if" scenarios of the evolution of the labor market in Romania;

v.   to investigate the impact of automation, digitization, and AI on business models and the workforce;

vi.   to participate in the collection, cleaning, annotation, and publication of project-specific datasets;

vii.   to publish research results in renowned academic journals and to have communications at conferences/ workshops;

viii.   to contribute to quantinar.com and to the dissemination strategy of the research project;

ix.   effectively collaborate with the multidisciplinary project team;

x.   involvement in technological transfer activities, innovation, and socio-economic impact of the research.

Requirements:

i.   Advanced knowledge in at least two of the following fields of the project's topic
- Artificial Intelligence and machine learning
- Data analysis and advanced statistics
- Semantic and/or Big Data technologies
- Economic and social transformations related to digitization

ii.   Experince when it comes to programming(preferably Phyton) and in the use of modern tools

iii.   Capacity for interdisciplinary analysis of the labor market and of the impact of technology on society

iv.   Autonomy in organizing and planning research activities

v.   Availability for active involvement within the team and the project's activities.

B. The selection process will consist of:

Step 1: Evaluation of the files submitted by the candidates.

Step 2: Structured interview (if there are not at least 2 candidates, the selection committee may decide to simplify the procedure and make the selection without the interview stage):

- *The date and time of the interview* will be communicated concurrently with the results of the evaluation of the files submitted by the candidates.
- *The place of the interview* will be communicated simultaneously with the results of the evaluation of the files submitted by the candidates.

The evaluation samples are eliminatory; the minimum score to be obtained for each sample is 50 points.

C. Topics and bibliography:

1. Topics:

  i. Innovation;
 ii. Artificial Intelligence;
iii. Digital business models;
 iv. Labor and society;
  v. Digitalization and the future of jobs;
 vi. Semantic technologies and Big Data for modelling the Romanian job market;
vii. Multidisciplinary approaches for understanding the labor market in Romania;
viii. Qualitative and quantitative analysis, based on statistical analysis and data analysis;
 ix. Agent-based modelling;
  x. Data-based „what- if" prediction models for simulating the labor market in Romania.

2. Bibliography:

  i. CEDEFOP, 2019. Artificial or human intelligence? Digitalisation and the Future of Jobs and Skills: opportunities and risks. https://doi.org/doi/10.2801/862703
 ii. de Groot, M., Schutte, J., Graus, D., 2021. Job Posting-Enriched Knowledge Graph for Skills-based Matching.
iii. Deloitte, 2018. Preparing tomorrow's workforce for the Fourth Industrial Revolution.
 iv. Devlin, J., Chang, M.-W., Lee, K., Toutanova, K., 2019. BERT: Pre-training of Deep Bidirectional Transformers for Language Understanding, in: Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers). Presented at the NAACL-HLT 2019, Association for Computational Linguistics, Minneapolis, Minnesota, pp. 4171–4186. https://doi.org/10.18653/v1/N19-1423
  v. Dumitrescu, S., Avram, A.-M., Pyysalo, S., 2020. The birth of Romanian BERT, in: Findings of the Association for Computational Linguistics: EMNLP 2020. Presented at the Findings 2020, Association for Computational Linguistics, Online, pp. 4324–4328. https://doi.org/10.18653/v1/2020.findings-emnlp.387
 vi. Market Accounting for Workers' Stocks and Gross Flows. Comput Econ 50, 21–68. https://doi.org/10.1007/s10614-016-9577-0
vii. Goyal, N., Sachdeva, N., Choudhary, V., Kar, R., Kumaraguru, P., Rajput, N., 2019. Con2KG-A Large-scale Domain-Specific Knowledge Graph, in: Proceedings of the 30th Acm Conference on Hypertext and Social Media (Ht '19). Assoc Computing Machinery, New York, pp. 287–288. https://doi.org/10.1145/3342220.3344931
viii. Hamill, L., Gilbert, N., 2016. Agent-Based Modelling in Economics, 1st edition. ed. Wiley, Chichester, UK ; Hoboken, NJ.
 ix. ILO, 2021. Changing demand for skills in digital economies and societies: Literature review and case studies from low- and middle-income countries.
  x. Kant, J.-D., Ballot, G., Goudet, O., 2020. WorkSim: An Agent-Based Model of Labor Markets. JASSS 23, 4. https://doi.org/10.18564/jasss.4396
 xi. Khaouja, I., Kassou, I., Ghogho, M., 2021. A Survey on Skill Identification From Online Job Ads. IEEE Access 9, 118134–118153. https://doi.org/10.1109/ACCESS.2021.3106120
xii. le Vrang, M., Papantoniou, A., Pauwels, E., Fannes, P., Vandensteen, D., De Smedt, J., 2014. ESCO: Boosting Job Matching in Europe with Semantic Interoperability. Computer 47, 57–64. https://doi.org/10.1109/MC.2014.283
xiii. Peter Elias, 1997. Occupational Classification (ISCO-88): Concepts, Methods, Reliability, Validity and Cross-National Comparability (OECD Labour Market and

Social Policy Occasional Papers No. 20), OECD Labour Market and Social Policy Occasional Papers. https://doi.org/10.1787/304441717388

xiv. WEF, 2017. Accelerating Workforce Reskilling for the Fourth Industrial Revolution.

xv. World Bank, 2016. World Development Report 2016: Digital Dividends.

xvi. Yao, K., Zhang, J., Qin, C., Wang, P., Zhu, H., Xiong, H., 2022. Knowledge Enhanced Person-Job Fit for Talent Recruitment, in: 2022 Ieee 38th International Conference on Data Engineering (Icde 2022). Ieee Computer Soc, Los Alamitos, pp. 3467–3480. https://doi.org/10.1109/ICDE53745.2022.00325

xvii. Zhang, M., Jensen, K., Sonniks, S., Plank, B., 2022. SkillSpan: Hard and Soft Skill Extraction from English Job Postings, in: Proceedings of the 2022 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies. Presented at the NAACL-HLT 2022, Association for Computational Linguistics, Seattle, United States, pp. 4962–4984. https://doi.org/10.18653/v1/2022.naacl-main.366

D. Contents of the competition file to be submitted by candidates:

1. A record of the enclosed documents
2. Application for the recruitment and selection process addressed to the Rector of ASE;
3. Copy of the identity document or any other document attesting the identity, according to the law, as the case may be;
4. Copy of marriage certificate or proof of name change, if the candidate changed his name (proof of name change);
5. The criminal record or a self-declaration that it has no criminal record that makes it incompatible with the position for which it is applying;
6. Medical certificate attesting the appropriate health status issued no more than 6 months prior to the selection by the family doctor of the candidate or by the competent medical units, or the declaration on its own responsibility, with the obligation to fill in the selection file with the medical certificate at the latest by the date of the first test of the recruitment and selection process, if applicable
7. Declaration on own responsibility if the candidate has or does not have a husband/wife or relatives and affines, up to the III-th degree inclusively, who are employees of the Academy of Economic Studies of Bucharest in a position of leadership, control, authority with the post taken out for selection and not the post, to which they apply, is not in a position of leadership, control, authority with husband/wife or relatives, up to and including III degree, employees of the University;
8. Statement for the processing of personal data;
9. Curriculum vitae in European format (www.cveuropean.ro/cv-online.html) – signed and dated on each page;
10. Copies of documents that certify the completed level of education and any other additional documents that attest to the completion of specializations, as well as copies of documents that certify the fulfilment of the specific conditions required for the position, as outlined in Chapter A, point 2.

E. Contact information:

The selection files are due on **January 12th, 2025**, by 16:00, at the BUES Registrar's Office, located in the „ Ion Angelescu" Building, Căderea Bastiliei Street, ground level, room 0016 or online using the email addresses of the contact people below.

Contact people:

- Prof. univ. dr. Liviu Adrian Cotfas(email: liviu.cotfas@ase.ro);
- Conf. univ. dr. Petre Caraiani(email: petre.caraiani@fabiz.ase.ro).
- For information regarding the recruitment and selection process: email: dru@ase.ro

F. Recruitment and selection calendar:

No. crt.	ACTIVITY	Date
1.	Posting the announcement	29.12.2025
2.	Submitting the candidates' competition files to the ASE Registrar's Office / online	12.01.2026
3.	Selection of application files by the members of the competition committee	13.01.2026
4.	Publication of the results of the selection of the application files	14.01.2026
5.	Submission of appeals regarding the results of the selection of application files	15.01.2026
6.	Publication of the results of the appeals	16.01.2026
7.	Interview	19.01.2026
8.	Communication of the results after the interview	20.01.2026
9.	Submission of appeals regarding the interview results	21.01.2026
10.	Publication of the results of the appeal	22.01.2026
11.	Publication of the final results	22.01.2026
12.	Appointment to the position	After approval from the Board of Trustees