ACADEMIC OPINION

in a competition for the academic position of "ASSOCIATE PROFESSOR"

Higher Education Area: 4. Natural Sciences, Mathematics and Informatics

Professional Field: 4.6. Informatics and Computer Science

Announced in: State Gazette, Issue 69 of July 31, 2026, for the needs of the Department of Computer Science at the Faculty of Social, Economic, and Computer Sciences of Varna Free University "Chernorizets Hrabar"

Candidate: Chief Assistant Professor Ivan Stanimirov Stoyanov, PhD

Academic Jury Member: Professor Borislav Panayotov Stoyanov, DSc, Varna Free University "Chernorizets Hrabar"

Grounds for Preparation: Order No. 605 / September 30, 2026 of the Rector of Varna Free University "Chernorizets Hrabar" and a decision of the Academic Jury from its meeting on October 7, 2026.

1. General Characteristics of the Submitted Materials and the Candidate

A single candidate has submitted documents for participation in the announced competition: Chief Assistant Professor Ivan Stanimirov Stoyanov, PhD. He worked as an Assistant Professor at the Institute of Information and Communication Technologies - Bulgarian Academy of Sciences (IICT-BAS) from March 8, 2021, to March 10, 2024. Currently, he is a Chief Assistant Professor at IICT-BAS since March 11, 2024, and at Varna Free University since July 10, 2026. Chief Assistant Professor Stoyanov holds a PhD in the Informatics doctoral program within Professional Field 4.6. Informatics and Computer Science, with a dissertation topic titled "Research on the Creation of a Virtual Operator in Smart Agriculture Infrastructure".

The scientific works presented by him are focused on the design and implementation of intelligent software platforms based on artificial intelligence and multi-agent systems. The first leading direction encompasses smart agriculture, within which expert environments and personal assistants for automated process modeling in agriculture are proposed. In this context, specific veterinary medical cases are resolved, and software tools have been developed for diagnosing dangerous poisonings in livestock. The second key area is ecological monitoring and air quality management through real-time data collection and analysis from IoT sensors. For this purpose, regional platforms are built that combine semantic ontologies, machine learning algorithms, and Large Language Models (LLMs) for anomaly detection and pollution forecasting. Last but not least, the research also examines the interdisciplinary link between the environment and the agricultural sector, analyzing the direct impact of fine particulate matter on the growth and development of agricultural crops.

2. Evaluation of Scientific Research and Applied Scientific Activity

The candidate participates in the competition procedure with the monographic work "Artificial Intelligence in 24, Book 3", which is dedicated to machine learning, as well as tightly related fields – data science (big data) and blockchain technology. The monograph systematizes the subject of artificial intelligence and describes the distinctive features of its various forms, specifically machine learning and generative artificial intelligence.

The candidate has also presented 12 scientific publications indexed in Scopus and/or Web of Science (WoS). I would highlight articles numbered 6 and 7, which were published in the journal "Future Internet", WoS Q1, Impact Factor (IF) 2025 = 4.6. The publications demonstrate a balanced distribution between conference proceedings and scientific journal papers.

As part of a research team, Dr. Stoyanov participates in two scientific research projects funded by the Bulgarian National Science Fund: "Intelligent Management System for the Bulgarian Plant Gene Pool Stored in the Genebank of IPGR-Sadovo" and "Knowledge Modeling in the Field of Bulgarian Folklore". He is also a participant in two National Scientific Programs of the Ministry of Education and Science (MES): "Smart Agriculture 2020-2023" and "Smart Livestock Breeding 2020-2023".

3. Citations in Scientific Literature

The candidate has submitted a list of 19 noticed citations of his scientific output in publications indexed in Scopus and/or WoS. Out of these citations, I accept the following 12 items: 1, 2, 4, 6, 7, 9, 10, 11, 12, 13, 15, and 18. The remaining ones contain inaccuracies and do not comply with the definition of valid citations.

4. Main Scientific and Applied Scientific Contributions

I accept the presented applied scientific and practical contributions in the following summarized form:

• An innovative and versatile event-driven model with a multi-agent interpreter (ECOS) has been developed, enabling efficient modeling, simulation, and dynamic real-time analysis of complex processes for smart agriculture and ecological monitoring.

• A unified architecture has been created for the effective integration of diverse symbolic knowledge representation models, combining Prolog logic programming, semantic networks, frames, and applied OWL ontologies.

• An applicable general model for autonomous personal intelligent assistants has been designed, functioning as rational BDI agents that successfully integrate classical symbolic artificial intelligence with modern generative Large Language Models.

• A comprehensive, modern methodology for school-level AI education has been implemented, based on the Prolog language, STEM approaches, and project-oriented tasks aimed at the digitalization of Bulgarian folklore and cultural-historical heritage.

5. Critical Remarks and Recommendations

I have no critical remarks toward the candidate. I recommend the publication of textbooks and/or teaching aids.

6. Personal Impressions

I do not know the candidate personally.

7. Compliance with the Minimum National Requirements and the Regulations of Varna Free University

Dr. Stoyanov fully satisfies the minimum national requirements across all groups of indicators according to the Development of Academic Staff in the Republic of Bulgaria Act (ZRASRB) in Professional Field 4.6. Informatics and Computer Science. Under indicator group G, with 417 accumulated points, the candidate exceeds the minimum of 200 points by 217 points. With his 96 points from citations, he also exceeds the minimum requirement of 50 points under indicator group D.

The additional requirements for candidates who have held a previous academic position at Varna Free University are also met. In the period leading up to the submission of documents for the competition, he had not undergone attestation, possesses Scopus and WoS publications after acquiring the academic position of Chief Assistant Professor, and due to the brief period of employment at VFU, he had no activities involving students. He is registered in the national Register of Academic Positions and Dissertations under number 73178.

CONCLUSION

Based on my acquaintance with the submitted materials for the competition procedure and the analysis of their significance, I consider that the candidate satisfies the minimum national requirements and the rules for the terms and conditions for occupying the academic position of Associate Professor. I give my **POSITIVE** evaluation for the selection of Chief Assistant Professor Ivan Stanimirov Stoyanov, PhD, to occupy the academic position of Associate Professor at Varna Free University in Higher Education Area 4. Natural Sciences, Mathematics and Informatics, Professional Field 4.6. Informatics and Computer Science.

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2026.10.29 13:52:43 +02'00'

Date: October 29, 2026
City: Varna

Prepared the opinion:
(Prof. Borislav Panayotov Stoyanov, DSc)