

Standpoint

Assoc. Prof. Nikolay Zhechev Kulev, PhD

Department of Communication Networks and Systems

Faculty of Artillery, Air Defense and CIS, Vasil Levski National Military University

of the materials, submitted for participation in the procedure for the academic position of "Associate Professor" appointment in the field of higher education 5. Technical sciences, professional field 5.3. Communication and computer equipment (Automated information processing and control systems)

Assistant Professor PhD Valentin Tonev Atanasov has applied in the procedure for associate professor appointment, announced in the State Gazette, issue 87/09.10.2020 and on the website of the University of Shumen "Bishop Konstantin Preslavski" for the needs of the Department of Communication and Computer Engineering, Faculty of Technical Sciences.

1. Brief biographical data

Assistant Professor Valentin Atanasov, PhD was born in 1964. He graduated Military University "Georgi Dimitrov" in 1986, Major "Computer Science". He has good professional experience in public administration as an expert in "Computer Systems, Local Area Networks, e-Government". He graduated from CISCO Academy at the University of Shumen. In 2017 obtained PhD in Communications at University of Ruse "Angel Kanchev", under the doctoral program Automation of areas in the intangible field in the professional field 5.3. Communication and computer equipment. In 2017 he was appointed as assistant professor at the Faculty of Technical Sciences at the University of Shumen, and in June 2018 - for assistant professor in the Department of Computer Systems and Technologies, Faculty of Artillery, Air Defense and CIS at the Vasil Levski National Military University, which meets the requirements of art. 24, paragraph 1 and 2 of Law for the Development of the Academic Staff in the Republic of Bulgaria. He is a member of the Union of Scientists in Bulgaria, the Center for Innovative Educational Technologies at the University of Ruse and several non-profit public organizations.

2. General description of the submitted materials

The candidate assistant professor Valentin Atanasov, PhD has submitted for the current procedure 17 scientific papers, including:

- Monographic work – 1 pc.;
- Interactive handbook of innovative educational technologies – 1 pc.;
- Scientific reports – 11 pcs.;
- Science magazine articles – 3 pcs..

Five of the provided publications are in English, and two of them are included in foreign publications. Nine of the papers were presented at scientific conferences with international participation in Bulgaria, and two papers were presented abroad. All reports are included in the relevant printed collections, and the articles are published in a scientific journal and annual collections.

The presented scientific production of the candidate covers as volume and content the minimum science metric indicators for the academic position "Associate Professor" in the professional field 5.3. "Communication and computer equipment".

3. Reflection of the candidate's scientific publications in the literature (known citations)

The applicant has attached the following citations:

- in scientific publications, referenced and indexed in world-famous databases with scientific information or in monographic and collective volumes – 3 pcs.;
- in monographs and collective volumes with scientific review – 11 pcs.;
- in unrefereed journals with scientific review – 4 pcs..

4. General characteristics of the candidate's activity

4.1. Educational and pedagogical activity

Assistant Professor Valentin Atanasov, PhD participates in the educational process of students in the Bachelor's and Master's degrees at the University of Shumen and the National Military University, and of cadets in the Bachelor's degree. He is a holder of six disciplines in the specialties "Communication and Information Systems", "Computer Systems and Technologies" and "Computer Technologies for Design". The candidate has participated in the development of the educational documentation of the above-mentioned specialties and of the educational-methodical complex in the taught disciplines - lecture courses, exercises, tests for current control. He has published web-based interactive learning resources in the personally developed training platform eklas.org and has participated in the development of an interactive version of the Handbook of Innovative Educational Technologies. For the needs of the learning process he has built and configured digital learning resources and materials in the university platforms for e-learning and distance learning.

Assistant Professor Valentin Atanasov, PhD successfully guides students to participate in scientific forums and student mobility under the educational program "Erasmus +", as well as in discussing problematic theoretical cases in the taught disciplines.

I believe that the candidate has pedagogical, technical and applied experience as a teacher and engineer in "Computer Systems and Technologies" and I appreciate his teaching work as diverse and meaningful.

4.2. Scientific and scientifically applied activity

Assistant professor Valentin Atanasov, PhD has worked in research teams, successfully developed 11 research projects, incl. 4 national and 7 university. In two of the developed projects he is an expert consultant, one is a coordinator, and one is a manager. In all projects there is an important role in fulfilling the tasks and achieving the goals. The results of his work are published in the presented scientific production.

4.3. Implementation activity

The candidate has participated in the development under contracts of digital products, systems, etc., implemented in innovative university training facilities and in contracting companies. He presented a certificate from the Agency for Protection, Evaluation and Transfer of Intellectual Property for copyright on a web-platform for generating educational games "Plobi". An interactive WEB-based application for training in the design and operation of product management systems 9M111 and 9M113, as well as the implemented mobile technological complex "Smart Home" as a prototype of a digital control platform in the infrastructure of BA has been developed and implemented in the Faculty of Artillery, Air Defense and CIS with significant utility.

4.4. Contributions

The analysis of the materials submitted to me for review: monograph, articles, reports and an interactive manual gives grounds for the candidate's contributions to be divided into contributions to the monograph and contributions to publications outside the monograph.

Scientific and applied contributions in the monographic work:

The issues developed in the monographic paper defend the following contributions: an approach and subsequent methodology for generating an interactivity indicator in Web-based training applications have been formed; establishing parameters have been synthesized and criteria for measuring and evaluating educational interactivity have been formulated; a working framework for assessing interactivity has been proposed, which could serve as an approach for building highly interactive systems and expanding the didactic tools in the learning process; a taxonomy of interactivity assessment has been synthesized; the proposed solution for assessment of interactivity can be considered as a theoretical basis for updating the IEEE standard 1484.12.1-2002 Learning Object Metadata Standard in its part, setting the norms of the indicator interactivity; a model of educational interaction and a didactic model of a digitally based learning process are synthesized; an algorithm for determining the complex index of educational interactivity has been synthesized; conceptual and functional model of test prototype of WEB based training application are synthesized; a design methodology is proposed and a prototype architecture of a web-based training application is synthesized.

Scientific and applied contributions in publications outside the monograph:

Assistant Professor Valentin Atanasov, PhD develops his competencies and qualities as a researcher in the following main areas:

Synthesis of software training systems

- A possible approach to systematic modeling of a web-based training application is proposed [1];
- Conceptual model, functional model and workflow of learning application are synthesized [1];
- A model of consumer interaction in digital educational resources has been formalized [2];
- A software algorithm for measuring and evaluating interactivity in web-based learning applications has been developed by generating a complex index of educational interactivity in a digital DOM-based learning process [5];
- An interface and abstract class of a web-based learning application have been synthesized [6];
- Classification of interactive objects has been performed and space and specifications of the educational interactivity have been defined [5];
- Conceptualization of models of smart educational structures and their elements is proposed [10];
- An approach to modeling learners in a web-based platform for generating learning games has been developed [11];
- A program game mechanism has been synthesized in a digitally presented process for testing knowledge [8];
- An algorithm for synthesis of component models designed to simulate the operation of a processor based on CISC architecture is proposed [13];

Synthesis of algorithms

- A software prototype has been developed for determining the complex index of educational interactivity in Web-based training applications [5];
- An algorithm for realization of a program game mechanism in a digitally presented process for testing knowledge has been synthesized [8];

Conceptualization and synthesis of intelligent educational structures

- An abstract concept of user interactions in a training application is proposed [2];
- A model of an intelligent educational structure is synthesized, based on a conceptual model of a digitally transformed educational process [7];
- Conceptualization of models of highly intelligent educational structures and their elements is proposed, based on a synthesized model of educational paradigm [10];
- A "flow state" in a computer training environment has been conceptualized [11];
- Conceptualization of the engineering educational process [11];
- Conceptualization of development of WEB based training applications is proposed [6].

Study of interfaces in an intelligent complex for ubiquitous computing

- A conceptual model has been synthesized and a mobile intelligent high-tech system "smart home" has been physically developed as a prototype of a digital platform for control of critical parameters in the infrastructure of BA [9].

Fuzzy sets

- An approach has been developed with the application of fuzzy set theory for intelligent solutions in the analysis and processing of the results of attestation of the academic staff [3].

Formalization of processes

- A paradigmatic model of cybersecurity has been synthesized and a formalized apparatus for research of key aspects in relation to the domain of cybersecurity has been presented. [14].

5. Assessment of the personal contribution of the candidate

In the works submitted for participation in the competition, Assistant professor Valentin Atanasov, PhD has worked in authorship and co-authorship as follows:

- Independent – 7 pcs. [1,4,5,7,8,10,16];
- With one co-author – 7 pcs. [2,3,6,11,13,14,15];
- With two co-authors – 1 pc. [9];
- With more than two co-authors – 1 pc. [12].

There is no separation protocol for the share participation of the authors in the collective works, which is why I accept the participation of everyone with the same contribution. The review of the

presented works and the profile of the authors, analyzed above, distinguishes the personal contribution of the candidate, which is indisputable and with an established style. It has contributed to the enrichment of existing knowledge, the creation of new classifications, models, methods and algorithms, obtaining and proving confirmatory facts. Chief Assistant PhD. Valentin Atanasov received a crystal award for best scientific report at the Scientific Conference RU & SU 2015.

There is no reason to doubt the author's participation in receiving the indicated contributions in the submitted works of the candidate.

6. Critical remarks

The presented scientific production is characterized by stylistic endurance and completeness of the subject. There is a certain episodicity in the candidate's publishing activity. I recommend looking for more appearances in forums with international participation for wide approbation of research results and publications in indexed journals and those with an impact factor. In the future research work to seek participation in research teams for the development of significant national and international European projects.

7. Personal impressions

I know the candidate since his appointment as chief assistant in the Department of Computer Systems and Technologies at the Faculty of Artillery, Air Defense and CIS. He gained experience in scientific work, and his professional competencies and digital skills established him as a leading lecturer and researcher in the scientific field, receiving recognition and respect from colleagues and students.

8. Conclusion

The research, scientific-applied, pedagogical and methodological activity of Ch. Assistant Professor PhD. Valentin Atanasov fully meet the requirements of the competition and are in accordance with the professional direction 5.3. Communication and computer equipment. I am convinced that his candidacy satisfies the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria and the Regulations for its implementation.

Expressing my positive opinion, I propose to the Faculty Council of the Faculty of Technical Sciences of the University of Shumen "Bishop Konstantin Preslavski", Assistant professor Valentin Tonev Atanasov, PhD to be appointed as associate professor in the field of higher education 5. Technical sciences, professional field 5.3. Communication and computer equipment (Automated information processing and control systems).

December, 28, 2020

Member of the jury:



Assoc. Prof. PhD. Engr. Nikolay Kulev