

Vesin Boban

ASSOCIATE PROFESSOR · COMPUTER SCIENCE

University of South-Eastern Norway, Vestfold Norway, Raveien 215, 3184 Borre

☎ (+47) 482-17-455 | ✉ boban.vesin@usn.no | 🌐 www.sudskavestacenja.com | 🌐 vesin | 📧 bobanvesin

e-learning · learning analytics · personalisation · software design · recommendation systems

Education

PhD in Computer Science

DEPARTMENT OF MATHEMATICS AND INFORMATICS, FACULTY OF SCIENCE, UNIVERSITY OF NOVI SAD

- Dissertation title: Personalization of learning process in tutoring system supported with the semantic web technologies

Novi Sad, Serbia

2014

MSc in Computer Science

DEPARTMENT OF MATHEMATICS AND INFORMATICS, FACULTY OF SCIENCE, UNIVERSITY OF NOVI SAD

- Average grade: 10.00 (out of 10)
- Thesis title: Design and implementation of tutoring system for distance learning of Java programming language

Novi Sad, Serbia

2007

BSc in Computer Science

DEPARTMENT OF MATHEMATICS AND INFORMATICS, FACULTY OF SCIENCE, UNIVERSITY OF NOVI SAD

- Average grade: 8.97 (out of 10)
- Thesis title: Function point analysis

Novi Sad, Serbia

2002

Experience

Associate professor

UNIVERSITY OF SOUTH-EASTERN NORWAY

- Department of Business, History and Social Sciences, Vestfold, Norway
- Information technologies field - **Full time**

Vestfold, Norway

June. 2018 - PRESENT

Postdoctoral fellow

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY

- Department of Computer Science, Trondheim, Norway
- Information technologies field - **Full time**

Trondheim, Norway

April. 2017 - May. 2018

Research Engineer

CHALMERS UNIVERSITY OF TECHNOLOGY / UNIVERSITY OF GOTHENBURG

- Department of Computer Science and Engineering, Gothenburg, Sweden
- Software engineering field - **Full time**

Gothenburg, Sweden

September. 2015 - April. 2017

Software Engineer

SCHNEIDER ELECTRIC DMS NS

- Training team, Novi Sad, Serbia
- Information technologies field - **Full time**

Novi Sad, Serbia

January 2015 – August 2015

Lecturer

NOVI SAD SCHOOL OF BUSINESS

- Department of Informatics, Novi Sad, Serbia
- Computer science field - **Full time**

Novi Sad, Serbia

December. 2007 - January 2015

Teaching assistant

NOVI SAD SCHOOL OF BUSINESS

- Department of Informatics, Novi Sad, Serbia
- Computer science field - **Full time**

Novi Sad, Serbia

December. 2002 - December. 2007

System analyst

UNIVERSITY OF NOVI SAD, SERBIA

- Department of Mathematics and Informatics, Novi Sad, Serbia
- **Full time**

Novi Sad, Serbia

January. 2002 - June. 2002

Court expert (Expert witness)

SERBIAN COURT

- The field of Information Technology, Involved in over 50 cases
- **Part time**

Serbia
2006 - PRESENT

Teaching experience

LECTURER

2018-	Application development , University of South-Eastern Norway	<i>Vestfold, Norway</i>
2019-	Data visualisation , University of South-Eastern Norway	<i>Vestfold, Norway</i>
2017	Web technologies , Norwegian University of Science and Technology	<i>Trondheim, Norway</i>
2008-14	Software engineering , University on Novi Sad	<i>Novi Sad, Serbia</i>
2010-14	Design of e-business systems , University on Novi Sad	<i>Novi Sad, Serbia</i>
2011-14	Application of Internet technologies , University on Novi Sad	<i>Novi Sad, Serbia</i>
2009-11	Applied programming , University on Novi Sad	<i>Novi Sad, Serbia</i>

TEACHING ASSISTANT

2018	Informatics Project II , Norwegian University of Science and Technology	<i>Trondheim, Norway</i>
2016-17	Advanced software architecture , Chalmers / University of Gothenburg	<i>Gothenburg, Sweden</i>
2006-07	Database management systems , University on Novi Sad	<i>Novi Sad, Serbia</i>
2002-05	Databases , University on Novi Sad	<i>Novi Sad, Serbia</i>
2002-06	Programming languages , University on Novi Sad	<i>Novi Sad, Serbia</i>
2006-07	Integrated development environments , University on Novi Sad	<i>Novi Sad, Serbia</i>
2006-07	Web design , University on Novi Sad	<i>Novi Sad, Serbia</i>

Service to Profession

MANUSCRIPT REVIEWING FOR JOURNALS

2011-	Computer Science and Information Systems , published by ComSIS Consortium
2013-	Artificial Intelligence Review , published by Springer
2013-	Knowledge-Based Systems , published by Elsevier
2013-	International Journal of Information Technology & Decision Making , published by World Scientific
2013-	Computer Applications in Engineering Education , published by Wiley Periodicals
2012-	Interactive Learning environments , published by Routledge

DEVELOPMENT AND REVIEW OF CURRICULUMS

2017-14	Accreditation Committee at Novi Sad school of business, University of Novi Sad, Serbia , member	<i>Novi Sad, Serbia</i>
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PROGRAMME COMMITTEE MEMBER

2018	Interaction Design and Children (IDC) Conference , Committee member	<i>Trondheim, Norway</i>
2015	International KES Conference on Smart education and e-learning , Committee member	<i>Sorrento, Italy</i>
2015	Conference on Court forensics , KISA HDCON Hacking Competition Final	<i>Novi Sad, Serbia</i>

Practical Skills

Programming	JAVA, PL/SQL, LaTeX
Web	Vaadin, HTML, CSS
Database management systems	Oracle, MySQL
Content management systems	Joomla, WordPress
Graphic design software	CorelDraw, Microsoft Visio
Languages	English (fluent), Serbian (native), Norwegian (beginner)

Research Experience

Towards adaptive assessment within smart learning environment

Norway

PROJECT MANAGER

2019-2020

- University of South-eastern Norway
- Financed by Diku – Norwegian Agency for International Cooperation and Quality Enhancement in Higher Education
- Value of the grant: 290 000 NOK

Future learning: Orchestrating 21st century learning ecosystems using analytics

Norway

PROJECT SCIENTIST

2017-2020

- Norwegian University of Science and Technology, Trondheim, Norway
- financed by *The Research Council of Norway*

PROMPT - Professional Master's Education in Software Development

Sweden

PROJECT SCIENTIST

2015-2017

- Chalmers University of Technology / University of Gothenburg
- financed by the *Knowledge Foundation's program "Expert Skills for Innovation"*

Adaptive personalization of learning environments

Serbia

PROJECT SCIENTIST

2012-2013

- Joint project of Faculty of Science (Novi Sad, Serbia) and Faculty of Electrical Engineering and Informatics (Košice, Slovakia)
- supported by ministries of science of both countries

Intelligent techniques and their integration into wide-spectrum decision support

Serbia

PROJECT SCIENTIST

2011-2014

- University of Novi Sad, Serbia
- supported by Ministry of Education, Science and Technological Development of the Republic of Serbia

Infrastructure for technology enhanced learning in Serbia

Serbia

PROJECT SCIENTIST

2011-2014

- University of Novi Sad, Serbia
- supported by Ministry of Education, Science and Technological Development of the Republic of Serbia

International business administration

Serbia

PROJECT SCIENTIST

2009-2010

- University of Novi Sad, Serbia
- organized by GTZ - Deutsche Gesellschaft für Technische Zusammenarbeit

Publications

Author or co-author of 1 book, 10 journal papers, 32 research papers and 3 published textbooks.

Enclosed is the list of publications.

Books

1. Klasnja-Miliević, A., Vesin, B., Ivanović, M., Budimac, Z. & Jain, L. C. *E-Learning Systems: Intelligent Techniques for Personalization* (Springer Publishing Company, Incorporated, 2016).

Journal articles

1. Klašnja-Milićević, A., Ivanović, M., Vesin, B. & Budimac, Z. Enhancing e-learning systems with personalized recommendation based on collaborative tagging techniques. *Applied Intelligence* **48**, 1519–1535 (2018).
2. Klašnja-Milićević, A., Vesin, B. & Ivanović, M. Social tagging strategy for enhancing e-learning experience. *Computers & Education* **118**, 166–181 (2018).
3. Vesin, B., Mangaroska, K. & Giannakos, M. Learning in Smart Environments: User-centered Design and Analytics of an Adaptive Learning System. *Smart Learning Environments* **5**, 24 (2018).
4. Vesin, B., Ivanović, M., Klašnja-Milićević, A. & Budimac, Z. Ontology-based architecture with recommendation strategy in java tutoring system. *Computer Science and Information Systems* **10**, 237–261 (2013).
5. Vesin, B., Milicevic, A. K., Ivanović, M. & Budimac, Z. Applying Recommender Systems and Adaptive Hypermedia for e-Learning Personalization. *Computing and Informatics* **32**, 629–659 (2013).
6. Vesin, B., Ivanović, M., Klašnja-Milićević, A. & Budimac, Z. Protus 2.0: Ontology-based semantic recommendation in programming tutoring system. *Expert Systems with Applications* **39**, 12229–12246 (2012).

7. Klašnja-Milićević, A., Vesin, B., Ivanović, M. & Budimac, Z. E-Learning personalization based on hybrid recommendation strategy and learning style identification. *Computers & Education* **56**, 885–899 (2011).
8. Klašnja-Milićević, A., Vesin, B., Ivanović, M. & Budimac, Z. Integration of recommendations and adaptive hypermedia into Java tutoring system. *Computer Science and Information Systems* **8**, 211–224 (2011).
9. Vesin, B., Ivanović, M. & Budimac, Z. Learning management system for programming in java. *Annales Universitatis Scientiarum De Rolando Eötvös Nominatae, Sectio-Computatorica* **31**, 75–92 (2009).
10. Ivanović, M., Pribela, I., Vesin, B. & Budimac, Z. Multifunctional environment for e-learning purposes. *Novi Sad Journal of Mathematics, NSJOM* **38**, 153–170 (2008).

Conference proceedings

1. Mangaroska, K., Vesin, B. & Giannakos, M. *Cross-platform analytics: A step towards personalization and adaptation in education* in *Proceedings of the 9th International Conference on Learning Analytics & Knowledge* (2019), 71–75.
2. Klašnja-Milićević, A., Marošan, Z., Ivanović, M., Savić, N. & Vesin, B. *The Future of Learning Multisensory Experiences: Visual, Audio, Smell and Taste Senses in International Conference in Methodologies and intelligent Systems for Technology Enhanced Learning* (2018), 213–221.
3. Mangaroska, K., Özgöbek, Ö., Vesin, B. & Giannakos, M. *Implementation of Elo-Rating method in Recommending Coding Exercises to Programming Students in Norsk konferanse for organisasjoners bruk av informasjonsteknologi (NOKOBIT)* (2018).
4. Vesin, B., Mangaroska, K., Giannakos, M. & Trætteberg, H. *ProTuS - Interactive learning analytics tool in Research demo at the 8th International Learning Analytics and Knowledge (LAK) Conference* (2018).
5. Vesin, B. et al. *Web-based educational ecosystem for automatization of teaching process and assessment of students in International Conference on Web Intelligence, Mining and Semantics* (2018), 8.
6. Jolak, R., Vesin, B. & Chaudron R.V., M. *Using Voice Commands for UML Modelling Support on Interactive Whiteboards: Insights and Experiences in XX Ibero-American Conference on Software Engineering, Buenos Aires, Argentina* (2017).
7. Mangaroska, K., Vesin, B. & Giannakos, M. *Informing learning design with learning analytics: Can multimodal analytics improve the design of learning experiences? in Twelfth European Conference On Technology Enhanced Learning* (2017), Paper-no.
8. Vesin, B., Jolak, R. & Chaudron, M. R. *OctoUML: an environment for exploratory and collaborative software design in 2017 IEEE/ACM 39th International Conference on Software Engineering Companion (ICSE-C)* (2017), 7–10.
9. Jolak, R., Vesin, B., Isaksson, M. & Chaudron, M. R. *Towards a New Generation of Software Design Environments: Supporting the Use of Informal and Formal Notations with OctoUML. in HuFaMo@ MoDELS* (2016), 3–10.
10. Vesin, B., Klašnja-Milićević, A. & Ivanović, M. *Protus 2.1: Applying collaborative tagging for providing recommendation in programming tutoring system in International Conference on Web-Based Learning* (2016), 236–245.
11. Ivanović, M., Budimac, Z., Klašnja-Milićević, A. & Vesin, B. *Possibilities to Improve Web-based Assessment in Programming Courses in WEBDATANET: Innovation and quality in web-based data collection* (2015).
12. Vesin, B., Klašnja-Milićević, A. & Ivanović, M. *Improving testing abilities of a programming tutoring system in 2013 17th International Conference on System Theory, Control and Computing (ICSTCC)* (2013), 669–673.
13. Vesin, B., Klašnja-Milićević, A., Ivanović, M. & Budimac, Z. *Personalised learning in tutoring systems in IV symposium Mathematics and application* (2013), 127–137.
14. Ivanović, M., Mitrović, D., Budimac, Z., Vesin, B. & Jerinić, L. *Different roles of agents in personalized programming learning environment in International Conference on Web-Based Learning* (2012), 161–170.
15. Klašnja-Milićević, A., Vesin, B., Ivanović, M. & Budimac, Z. *Personalisation of programming tutoring system using Tag-based recommender systems in Advanced Learning Technologies (ICALT), 2012 IEEE 12th International Conference on* (2012), 666–667.
16. Sredojević, D., Marčićević, Ž. & Vesin, B. *Information systems in education in 31st International Conference on Organizational Science Development, Quality, innovation, future, Portorož, Slovenia* (2012), 1103–1108.
17. Vesin, B., Ivanović, M., Klašnja-Milićević, A. & Budimac, Z. *Rule-based reasoning for building learner model in programming tutoring system in International Conference on Web-Based Learning* (2011), 154–163.
18. Vesin, B., Klašnja-Milićević, A., Ivanović, M. & Budimac, Z. *Ontology-based architecture for providing recommendation in Java tutoring system in The 6th International Conference on Information Technology* (2011).
19. Budimac, Z. et al. *E-Learning at the Department of mathematics and informatics – from the first steps to elements of web 2.0 in E-learning, towards knowledge society* (2010).

20. Klašnja-Milićević, A., Vesin, B., Ivanović, M. & Budimac, Z. *Integration of recommendations into Java tutoring system in The 4th international conference on information technology ICIT 2009 Jordan* (2009).
21. Vesin, B., Ivanović, M., Budimac, Z. & Pribela, I. *Mile-Multifunctional Integrated Learning Environment in e-Learning* (2008), 104–108.
22. Vesin, B., Ivanović, M. & Budimac, Z. *Tutoring system for distance learning of Java programming language in 10th Symposium on Programming Languages and Software Tools SPLST 2007, Dobogókő, Hungary* (2007), 310–320.
23. Vesin, B. & Ivanović, M. *Modern educational tools in Proceedings of PRIM2004, 16th Conference on Applied Mathematics, Budva, Montenegro* (2004), 293–302.

National journals and proceedings of national conferences

1. Vesin, B. *Metodologija razvoja sistema za elektronsko učenje* School of business, Higher School of Professional Business Studies, 1(1), pp. 101-106. 2008.
2. Vesin, B. *Softverska podrška obrazovnim sistemima podučavanja* School of business, Higher School of Professional Business Studies, 3(2), pp. 50-53. 2006.
3. Vesin, B. *Učenje na daljinu preko globalne mreže* School of business, Higher School of Professional Business Studies, 2(2), pp. 60-65. 2006.
4. Jošanov, B. & Vesin, B. *M-Trgovina - novi izazovi poslovanju i tehnologijama* Proceedings of XVIII Info-Teh conference, Vrnjačka banja, Serbia, 65-73. 2003.
5. Vesin, B. *Digitalni potpisi* Zbornik naučno – stručnih radova Više poslovne škole u Novom Sadu, January-June, pp. 202-207. 2003.
6. Vesin, B. *Dizajniranje objektno orijentisanih modela pomoću UML-a* Zbornik naučno - stručnih radova Više poslovne škole u Novom Sadu, January-June, 458-471. 2003.
7. Vesin, B. *Function point analysis* Proceedings of XVIII Info-Teh conference, Vrnjačka banja, Serbia, pp. 112-120. 2003.
8. Vesin, B. *Interfejsi sa dijalogom inteligentnih obrazovnih sistema* Zbornik naučno – stručnih radova Više poslovne škole u Novom Sadu, July-December, 398-402. 2003.
9. Vesin, B. *Primena veštačke inteligencije u obrazovanju* Zbornik naučno – stručnih radova Više poslovne škole u Novom Sadu, July-December, 208-213. 2003.

Published textbooks

1. Marošan, Z. & Vesin, B. *Application of Information Technologies, practice manual* Novi Sad school of business (University of Novi Sad, 2009).
2. Jošanov, B. & Vesin, B. *Software engineering practicum* Novi Sad school of business (University of Novi Sad, 2004).
3. Ristić, S., Marošan, Z., Klašnja, A. & Vesin, B. *Application of Information Technologies, practice manual* Novi Sad school of business (University of Novi Sad, 2004).