

## Curriculum Vitae

### Sergey Sosnovsky



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### Formal Education

**Ph.D., Information Science: 2011**

School of Information Sciences, University of Pittsburgh, Pittsburgh, PA, USA  
Thesis: *Ontology-based open-corpus personalization for e-learning*  
Advisor: Prof. Peter Brusilovsky

**Diploma, Information Systems: 1999 (with honour)**

Kazan State Technological University, Kazan, Russia  
Thesis: *Development of authoring tools for intelligent tutoring systems*  
Advisor: Dr. Ildar Galeev

**High School: 1994**

High School #131 for Physics and Math, Kazan, Russia

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### Honours and Awards

**2019** ACM Hypertext 2019 Ted Nelson Award  
**2019** UMAP'2019 Outstanding Committee member  
**2010** EU Marie Curie International Incoming Fellowship  
**2005** Honorable Mention: University of Pittsburgh i-Fest  
**2004** Outstanding Paper Award: AACE International Conference E-Learn'2004  
**2001** President of Russian Federation Graduate Student Fellowship  
**2000** President of Russian Federation Graduate Student Fellowship  
**1999** First Prize: Russian National Student Competition "Advanced Educational Technologies"  
**1998** Kazan State Technological University Academic Council Student Fellowship  
**1997** Russian Government Student Fellowship  
**1996** President of Russian Federation Student Fellowship

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### Research Interests

- Technology-Enhanced Learning: Intelligent Textbooks, Learning Analytics, (Open) Student Modelling, Intelligent Tutoring Systems, VR-based Training Environments, Computing Education;
- Intelligent Adaptive Web Applications: User Modelling, Adaptive Hypermedia, Authoring for Adaptive Systems;
- Knowledge Extraction and Content Modelling: Text Analysis, Semantic Annotation, User-Generated Data.

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### Employment and Experience

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<b>Nov. 2016 – Present</b>	Assistant Professor of Software Technology for Learning and Teaching (Department of Information and Computing Sciences, Utrecht University / Utrecht, Netherlands)
<b>Jan. 2014 – Feb. 2017</b>	Principal Researcher, Project Manager, Lecturer (Department of Education at Saarland University / Saarbrücken, Germany)
<b>Jul. 2010 – Oct. 2016</b>	Principal Researcher, Head of the Intelligent e-Learning Technology Lab, Marie Curie Senior Research Fellow (Competence Centre for Learning Technology (CeLTech) at German Research Center for Artificial Intelligence (DFKI) / Saarbrücken, Germany)
<b>Oct. 2009 – Jun. 2010</b>	Researcher (Department of Computer Science, Saarland University Saarbrücken, Germany)
<b>Jun. 2006 – Jul. 2006</b>	Visiting researcher (L3S Lab, Leibniz University of Hanover / Hanover, Germany)
<b>Sep. 2002 – Sep. 2009</b>	Research assistant (School of Information Sciences, University of Pittsburgh / Pittsburgh, PA, USA)
<b>Sep. 2000 – Aug. 2002</b>	Research assistant (Institute of Mathematics and Mechanics, Kazan State University / Kazan, Russia)
<b>Sep. 1999 – Aug. 2002</b>	Research assistant (Kazan State Technological University / Kazan, Russia)

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### Funded Research projects

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- 1) **THERMOS: Teachers Monitoring Their Students**  
Agency/Program: Utrecht Incentive Fund / Utrechts Stimuleringsfonds Onderwijs (USO)  
Duration: September 1, 2018 - August 31, 2021  
Project Budget: €245 685.00 / Our Budget: €56 304.00  
 THERMOS aims at creating an educational environment that supports students in making academic decisions, and improving the overall approach towards their studies. Learning analytics tools are designed and developed to inform students about their study behaviour and characterise their study experience. THERMOS also helps tutors and study advisors monitor and support students in balancing their study behaviour, experience and progress.  
My role: Leader of the Learning Analytics Work Package.
  
- 2) **Towards personalised education: from diagnosing concept knowledge towards remediation of misconceptions**  
Agency/Program: Utrecht Incentive Fund / Utrechts Stimuleringsfonds Onderwijs (USO)  
Duration: June 1, 2018 - May 31, 2019  
Project Budget: €19 900.00/ Our Budget: €11 025.00  
 In a variety of disciplines, students need to dominate specific concepts. Lack of understanding of these concepts or holding misconceptions impede progress in correct understanding of discipline-specific knowledge. In large groups of students, it is difficult to identify all possible misconceptions and/or knowledge gaps individual students may have. Over the past decade a large number of concept inventories have been published to meet the need to diagnose in a systematic way the misconceptions students may hold. This project will combine diagnosis with personalised remediation of misconceptions and gaps in concept knowledge by the use of learning analytics.  
My role: Co-PI.
  
- 3) **Modelling and Personalization of Open-Corpus Educational Resources**  
Agency/Program: Utrecht University Research Focus Area Education for Learning Societies (ELS)  
Duration: April 1, 2018 - September 30, 2018  
Project Budget: €7 500.00/ Our Budget: €7 500.00  
 This individual micro-grant supports the applicant in writing an NWO Vidi proposal on the indicated topic.  
My role: PI.
  
- 4) **Differentiation through Blended learning and Learning Analytics**  
Agency/Program: Utrecht Incentive Fund / Utrechts Stimuleringsfonds Onderwijs (USO)  
Duration: September 1, 2015 - August 31, 2017  
Project Budget: €248 846.00/ Our Budget: €72 780.00

Traditional forms of university education treat all students uniformly. All students go through the same curriculum at the same pace, with the same learning outcomes, regardless of their diversity in background, ability and level or interests. This project makes introduces a mixture of more innovative methods such as Blended Learning and Learning Analytics into the everyday teaching practices of UU and UMC staff.

My role: Leader of the Learning Analytics Work Package.

5) **Advise-Me: Automatic Diagnostics with Intermediate Steps in Mathematics Education**

Agency/Program: EU EACEA Erasmus+ Strategic partnership (Grant 2016-1-NL01-KA201-023022)

Duration: September 1, 2016 - August 31, 2019

Project Budget: €442 895.00/ Our Budget: €117 410.00

Summary: Competence in mathematics has been identified at EU level as one of the key competences for personal fulfilment, active citizenship, social inclusion, and employability in the knowledge society of the 21st century. Low achievement in mathematics is a common concern for all European countries. The objective of this project is to develop flexible support for detailed diagnostics of mathematical competences of pupils, and to use this in four existing digital testing and practicing environments in mathematics education. The diagnostics summarise the knowledge, skills, and competences of a pupil, and can be used by teachers to identify underachievers. With this information, teachers can direct their attention to help pupils overcome particular difficulties. Pupils can use diagnostic reports to get an accurate understanding of their own performance and progress. Also the system itself can use the diagnostic information for adapting the environment to the level of an individual.

My role: Contribution to domain and student modelling framework, as well as overall adaptation design.

6) **Interlingua: Supporting Students of Greater Region with Interlingual Educational Resources**

Agency/Program: INTERREG IV A GR (Grant 138 GR DeLux 3 2 274)

Duration: March 1, 2014 - June 30, 2015

Project Budget: €834 430.48/ Our Budget: €273 731.52

Summary: Increasing numbers of European students enrol in formal (and informal) courses taught in a foreign language. From the socioeconomic perspective, EU promotes ever-growing mobility, especially when it comes to younger population (see, e.g., the “Youth on the Move” initiative and Bologna Process). From the pedagogical (and technological) perspective, new forms of learning (such as Open Educational Resources – OER and Massive Open Online Courses – MOOC) are emerging supported by new Information and Communication Technologies – ICT. For an individual foreign student who is trying to take advantage of these new learning opportunities a new set of challenges emerge. Studying a course from an unfamiliar university/program is difficult enough, but the difficulties multiply when the transition to the new course requirements is aggravated by the necessity to learn material in a foreign language, different from the language use for teaching them the course prerequisites. The main goal of this project is to organise a scalable solution to the problem of practical support for individual students studying in a foreign (FR/DE/EN) language. This goal is being achieved by means of an innovative e-learning technology providing students with relevant supplementary learning material in their mother tongue.

My role: PI.

7) **MetaMath: Modern Educational Technologies for Math Curricula in Engineering Education of Russia**

Agency/Program: Tempus IV Call 6 (Grant 543851-TEMPUS-1-2013-1-DE-TEMPUS-JPCR)

Duration: December 1, 2013 - February 28, 2017

Project Budget: €1 144 862.55 / Our Budget: €221 149

Summary: The project is aimed at raising the quality of STEM education in Russia by modernising and improving the curricula in the field of Mathematics. A fundamental revision of math studies in all Russian universities offering degrees in STEM is conducted. The consistency of the math curricula with the Bologna principles and best European standards is verified. The content and teaching methods are modernised through introduction of blended learning and e-learning technologies.

The major project activities include:

- Comparative Case Studies bringing together best European and national practices in teaching Math within STEM curricula.
- Modernisation of Math & Statistics component of selected STEM curricula.
- Localisation and deployment of the Math-Bridge online platform for mathematical courses in several Russian universities.

My role: PI.

- 8) **MathGeAr: Modernization of Mathematics curricula for Engineering and Natural Sciences studies in South Caucasian Universities by introducing modern educational technologies**  
Agency/Program: Tempus IV Call 6 (Grant 543868-TEMPUS-1-2013-1-DE-TEMPUS-JPCR)  
Duration: December 1, 2013 - February 28, 2017  
Project Budget: €1 078 292.50 / Our Budget: €201 977.21  
Summary: Mathematics is the core, fundamental subject that all Sciences, Technology, Engineering and Mathematics (STEM) curricula rely upon. The quality of math education is one of the most important elements of technological modernisation and economic reforms. Despite a well-known conservatism of math education, the application of new educational technologies can radically improve the quality of learning outcomes. The overall objective of the project is to improve STEM education in South Caucasian region by modernising Mathematical curricula and applying new e-Learning technologies. The project activities will include overall refactoring of the way math studies are organised in target Georgian and Armenian universities offering degrees in STEM and ensuring the consistency of the math curricula with the Bologna principles and best European standards. The instructional content and teaching methods will be revised and principles of blended learning and e-learning will be introduced.  
My role: PI.
- 9) **SafeChild: intelligent traffic safety training for children in virtual reality**  
Agency/Program: BMBF Software Campus Program (Grant 01IS12050)  
Duration: March 01, 2013 - February 28, 2015  
Project Budget: €104 918/ Our Budget: €104 918  
Summary: Effective child pedestrian safety education, requires children to train their knowledge and skills in real traffic situations. Real roadside training is problematic due to the budget and safety concerns. This project proposes an alternative - training children in a virtual reality (VR) environment equipped with the capabilities of an intelligent tutoring system. This is a PhD student project. Its primary investigator is Yecheng Gu.  
My Role: Research adviser
- 10) **Kompetenzbrücken mit e-learning**  
Agency/Program: European Regional Development Fund  
Duration: January 1, 2012 - June 30, 2014  
Project Budget: €585 633 / Our Budget: €218 625  
Summary: Students enrolling in Computer Science and Engineering University programs are often struggling with understanding the requirements of their new programs. Core subjects, such as Mathematics often become the first and most important obstacle for them. In Fachhochschule Brandenburg, as the result of this development very high drop-out rates have been recorded in recent years within or after the first semester. The Kompetenzbrücken project addresses this problem. In is a joint project between the team of Prof. Mündemann from the Department of Informatics and Media at Fachhochschule Brandenburg and the team of Dr. Sosnovsky from the Centre for e-Learning Technology at DFKI. The Math-Bridge e-Learning platform for bridging courses will be used in Fachhochschule Brandenburg to identify the most problematic competencies of freshman students and help them to overcome their knowledge gaps.  
My role: Co-PI.
- 11) **Adaptive Tutorial Feedback (ATuF) – II**  
Agency / Program: DFG (Grant NA-738/10-1)  
Duration: April 1, 2011 - March 31, 2013  
Project Budget: €359 000 / Our Budget: €179 500  
Summary: The objectives of the project ATuF are the development and the empirical evaluation of adaptive and tutorial feedback components (ATuF components) and strategies. In the first phase of ATuF, apart from domain analysis and representation, we have investigated parts of the user modelling and of the diagnosis of errors. Furthermore we have developed ATuF components and examined their effects within exercises with typical errors while conducting first experiments. In the second phase we are investigating the following empirical and technological requirements for the adaptation of feedback and first forms of the real adaptation: (a) the effects of ATuF components and strategies depending on the characteristics of the exercises and the learners; (b) manual and automatic analysis/ data mining of the log files from the experiments; (c) empirically sustained and extended user modelling as basis for the adaptation of feedback; (d) extension of the competence, diagnosis as well as diagnosis of motivational and other variables; (e) empirical investigations of various dimensions of the feedback adaptation; (f) adaptation of the feedback strategies in

relation to the characteristics of the exercises and the learners; (g) evaluation of the developed adaptation dimensions; (h) empirical investigation and technical requirements for the feedback and its adaptation within various types of exercises. Working on these issues is done using an interdisciplinary approach and the learning platform ActiveMath within ATuF.

My role: Co-PI.

12) **Intelligent Support for Authoring Semantic Learning Content**

Agency / Program: EU FP7 People Programme (Grant PIIF-GA-2009-255049)

Duration: July 1, 2010 - December 31, 2012

Project Budget: €217 782 / Our Budget: €217 782

Summary: The ultimate goal of the ISASLC project is to advance the state of the art in the field of authoring technologies for intelligent tutoring systems (ITS). Content and knowledge creation for ITS is a very complex procedure that requires considerable time investment and is especially demanding from the point of participating authors' expertise. This problem has long hindered the dissemination and adoption of adaptive and intelligent technologies in e-Learning. Its solution has not been possible before. But now, with recent advancements in Artificial Intelligence and Human-Computer Interaction, and corresponding development of new Web technologies we might have just enough tools and resources to take the next step towards solving this problem. The ISASLC project attempts to take this step by relying on the methods from such fields as Social Computing, Semantic Web, and Data Mining. From the practical perspective, ISASLC seek to widen the population of potential ITS authors by providing aid to inexperienced authors when it comes to error-prone and expertise-demanding authoring tasks, such as new content creation, metadata authoring, interactivity authoring, error detection and quality control. The R&D activity within ISASLC is divided into five work-packages: (1) Interactivity authoring support; (2) Collaborative authoring support; (3) Metadata authoring support; (4) Gap detection; (5) Open-corpus content discovery.

My role: PI.

13) **AdaptErrEx: Exploring the learning benefits of erroneous examples and their dynamic adaptations within the context of middle school mathematics**

Agency/Program: US Dept. of Education (Grant R305A090460)

Duration: September 1, 2009 - August 31, 2012

Project Budget: \$1 302 928 / Our Budget: \$315 036

Summary: Helping students to have a stronger conceptual understanding of mathematics is a major goal of K-12 instruction in the United States. Results of national and international assessments unfortunately show that while U.S. students perform adequately on applying procedures for standard computations, they have difficulty in problem solving that requires meta-cognitive strategies. Additionally, students in American schools consistently perform much worse in mathematics than their counterparts in many other countries. The AdaptErrEx project addressed this issue by presenting students with problems and problem solving techniques that fall outside the classroom norm. In particular, the intention was to present students with interactive erroneous examples of mathematical problems-step-by-step demonstrations of problem-solving in which one or more of the steps are incorrect. Erroneous examples are rarely used in classrooms because mathematics teachers are concerned that discussing errors may be embarrassing or make students more likely to make those errors, in behaviourist fashion. Very few empirical studies have tested the pedagogical value of erroneous examples, and no studies have explored adaptive presentation of such examples (e.g., presenting erroneous examples when a student is ready, withholding when not, providing help only when needed). The AdaptErrEx project has advanced the state of the art by developing technologies and materials to support learning of decimals through erroneous examples. In particular, it explored the learning outcomes of personalised sequencing of erroneous examples.

My role: Leader of the Personalisation Work Package.

14) **Math-Bridge: European Remedial Content for Mathematics**

Agency/Program: EU eContentplus (Grant ECP-2008-EDU-428046)

Duration: May 1, 2009 - January 31, 2012

Project Budget: \$3 599 964 / Our Budget: €1 425 413

Summary: Many students enrolling into European colleges and universities lack mathematical competencies necessary for their studies, especially, in math-intensive engineering and science disciplines. This often leads to serious learning problems, and even causes students to drop out of their learning programs. The Math-Bridge project has addressed this problem by applying a range of techniques from the fields of Intelligent Tutoring Systems, Adaptive Hypermedia, Semantic Web and TEL. The result of these efforts is the e-

Learning platform for bridging courses with a number of unique features. It provides access to the largest in the World collection of multilingual, semantically annotated learning objects (LOs) for remedial mathematics. It models students' knowledge and applies several adaptation techniques to support more effective learning, including personalised course generation, intelligent problem solving support and adaptive link annotation. It facilitates a direct access to LOs by means of semantic search. It provides rich functionality for teachers allowing them to manage students, groups and courses, trace students' progress with the reporting tool, create new LOs and assemble new curricula. Math-Bridge offers a complete solution for organising technology-enhanced learning (TEL) of mathematics on individual-, course- and/or university level.

My role: PI.

15) **Personalized Exploratorium for Database Courses**

Agency/Program: US NSF (Grant #DUE-0633494)

Structured Query Language (SQL) is the most widely used multipurpose database language. Extensive knowledge and fluency in SQL is mandatory in mastering modern database technologies. This project has developed an innovative suite of tools that allow Information Science students to acquire practical SQL skills through the use of adaptive and interactive learning activities.

My role: Systems design, development and evaluation, knowledge engineering, experiment design, statistical analysis.

16) **Personalized Access to Open Corpus Educational Resources**

Agency/Program: US NSF (Grant #447083)

The volume of educational resources available to students is rapidly increasing. The abundance of resources has created the need to provide personalised access to educational resources, i.e., to help students find, organise, and use resources that match their individual goals, interests, and current knowledge. This project answers that need by developing and exploring a broad range of innovative techniques for personalised access to open corpus educational resources. Among these techniques are adaptive navigation support and adaptive visualisation techniques, which offer a higher level of interactivity and expressive power and take into account not only the users' interests, but also their current knowledge and goals.

My role: Systems design, development and evaluation, knowledge engineering, experiment design, statistical analysis.

17) **Individualized Exercises for Assessment and Self-Assessment of Programming Knowledge**

Agency/Program: US NSF (Grant #7525)

This project systematically explores the use of individualised questions and exercises in the context of programming-related courses. A set of innovative tools for assessment and self-assessment of student's knowledge has been developed and evaluated in a series of studies. The project has extended the understanding of the role and place of individualised questions and exercises as an educational tool in programming courses.

My role: Systems design, development and evaluation, knowledge engineering, experiment design, statistical analysis.

18) **Telecommunication Technologies for Education**

Russian Foundation for Fundamental Researches Grant #99-07-90166

19) **Telecommunication Technologies for Education**

Russian Ministry of Education grant #03-13-01

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### Teaching

**2016 - Present**

Department of Information and Computing Sciences, Utrecht University (Utrecht, Netherlands):

- INFOB1PICA/INFOB1PGT: Introductory programming project (2016/17);
- INFOB3GSP / INFOSP: Final software project (2017/18; 2018/19);
- INFOB2WT: Web-technology (2016/17, 2017/18; 2018/19);
- INFOMTFL: Technology for Learning (2017/18; 2018/19, 2019/20)
- INFOB3OMI/INFOB3OMG: Research methods (2017/18).

- 2009 – 2016** Department of Education & Department of Computer Science, Saarland University (Saarbrücken, Germany):
- Seminar: Computer-Based Educational Technologies (8 semesters)
- 2002 –2009** School of Information Sciences, University of Pittsburgh (Pittsburgh, PA, USA):
- Telecommunications (1 semester);
  - Introduction to Information Science (2 semesters);
  - Introduction to Programming (8 semesters);
  - Object-Oriented Programming (4 semesters);
  - Human Information Processing (1 semester).
- 2001 – 2002** Department of Applied Math and Informatics, Kazan State Technical University (Kazan, Russia):
- CAD systems (1 semester);
  - Information systems for scientific research (1 semester).
- 2000 – 2002** Department of Informatics and Applied Math, Kazan State Technological University (Kazan, Russia):
- Introduction to programming (1 semester);
  - Introduction to Expert Systems (1 semester);
  - Practice of computer-based testing (1 semester);
  - Numerical methods (2 semesters).

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### Student Advising

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#### PhD Supervision (Current)

- **Qixiang Fang** (Started in 2019). Utrecht University. Department of Information and Computing Sciences. Topic: Learning Analytics.
- **Isaac Alpizar Chacon** (Started in 2018). Utrecht University. Department of Information and Computing Sciences. Topic: Intelligent Textbooks.

#### PhD Supervision (Past)

- **Yecheng Gu** (2019). Student modelling and intelligent training in a dynamic virtual reality environment. Saarland University, Department of Computer Science. PhD in Computer Science.

#### PhD Dissertation Committees

- **Jaime Gálvez Cordero** (2012). Modelado Probabilístico del Alumno en Entornos Inteligentes de Resolución de Problemas Educativos. University of Malaga, School of Engineering, Department of Software and Computer Science. PhD in Computer Science.

#### MSc

- **Jathin Nagesh** (2019-tentative). Development of an Approach for Data-Driven Personalized Advertising. Utrecht University. Department of Information and Computing Sciences. MSc in Business Informatics.
- **Saan Rashid** (2019). Misconception elicitation from the logs of an educational system. Utrecht University. Department of Information and Computing Sciences. MSc in Business Informatics.
- **Juan Antonio Fonseca Mendez** (2019). The role of competition and perspective in game-based learning for traffic rules education. Utrecht University. Department of Information and Computing Sciences. MSc in Game and Media Technology.
- **Tom Oerlemans** (2018). Context-adaptive notification management in mobile language learning. Utrecht University. Department of Information and Computing Sciences. MSc in Artificial Intelligence.
- **Ramya Rangaswamy** (2016). Automatic generation of assessment items from a multilingual ontology. Saarland University, Department of Computer Science. MSc in Computer Science.
- **Revathy Santhanam** (2016). Development of a learning analytics framework for an intelligent tutoring system. Saarland University, Department of Computer Science. MSc in Computer Science.
- **Sruti Subramanian** (2016). A study of visual perception in virtual reality interfaces: Analyzing importance of object attributes. Saarland University, Department of Computer Science. MSc in Computer Science.
- **Özgün Erensoy** (2015). Extraction of semantic models from semi-structured textual resources. Saarland University, Department of Computer Science. Saarland University, Department of Computer Science. MSc in Computer Science.

- **Florian Dietz** (2015). Linking multilingual semi-structured documents. Saarland University, Department of Computer Science. MSc in Computer Science.
- **Somnath Meignana Murthy** (2015). Exploring techniques for semantic linking of semi-structured online resources. Saarland University, Department of Computer Science. MSc in Computer Science.
- **Isaac Alpizar Chacon** (2012). Semantic gap detection in learning object metadata. Saarland University, Department of Computer Science. MSc in Computer Science.
- **Gautham Aditya Ravi** (2012). Exercise metadata calibration based on student log mining. Saarland University, Department of Computer Science. MSc in Computer Science.

## BSc

- **Jaimy Uithol** (2019). Progress indicators in educational settings: state-of-the-art analysis, and experiment design. Utrecht University. Department of Information and Computing Sciences. BSc in Information Science.
- **Floris Wijbrands** (2019). Analysis, design and evaluation of visual interfaces for motivational profiles of students. Utrecht University. Department of Information and Computing Sciences. BSc in Information Science.
- **Thom van Doorn** (2018). Gamification of learning: the impact of game elements on the learning process. Utrecht University. Department of Information and Computing Sciences. BSc in Information Science.
- **Rogier Knoester** (2018). The development of an interactive web-based quiz platform. Utrecht University. Department of Information and Computing Sciences. BSc in Information Science.
- **Kyrill Pugatschewski** (2015). Automated extraction and enrichment of a multilingual ontology. Saarland University, Department of Computer Science. BSc in Computer Science.

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## Professional Service

### Conference Organisation

#### *Program Committee Chair*

- **ICCE'2018**: International Conference on Computers in Education / Special Track on Artificial Intelligence in Education / Intelligent Tutoring System (AIED/ITS) and Adaptive Learning (Manila, Philippines; November 26-30, 2018);
- **ICCE'2017**: International Conference on Computers in Education / Special Track on Artificial Intelligence in Education, Intelligent Tutoring System (AIED/ITS) and Adaptive Learning (Christchurch, New Zealand; December 4-8, 2017).

#### *Program Committee Member*

- **LAK'2020**: 10th International Conference on Learning Analytics & Knowledge
- **EC-TEL'2019**: 14th European Conference on Technology-Enhanced Learning (Delft, the Netherlands; September 16-19, 2019);
- **UMAP'2019**: 27th International Conference on user Modelling, Adaptation and Personalisation (Larnaca, Cyprus; June 9-12, 2019);
- **AIED'2019**: 20th International Conference on Artificial Intelligence in Education (Chicago, IL, USA; June 25-29, 2019);
- **EC-TEL'2018**: 13th European Conference on Technology-Enhanced Learning (Leeds, UK; September 03-06, 2018);
- **AIMSA'2018**: 18th International Conference on Artificial Intelligence: Methodology, Systems, Applications (Varna, Bulgaria; September 12-14, 2018);
- **UMAP'2018**: 26th International Conference on user Modelling, Adaptation and Personalisation (Nanyang, Singapore; July 8-11, 2018);
- **AIED'2018**: 19th International Conference on Artificial Intelligence in Education (London, UK; June 24-30, 2018);
- **ICLS'2018**: 13th International Conference on the Learning Sciences (London, UK; June 23-27, 2018);
- **mLearn'2017**: 16th World Conference on Mobile and Contextual Learning (Larnaca, Cyprus; October 30 - November 1, 2017);
- **EC-TEL'2017**: 12th European Conference on Technology-Enhanced Learning (Tallinn, Estonia; September 12-15, 2017);
- **ICALT'2017**: 17th IEEE International Conference on Advanced Learning Technologies (Timisoara, Romania; July 3-7, 2017);



- **ICCE'2016**: International Conference on Computers in Education / Special Track on Artificial Intelligence in Education, Intelligent Tutoring System (AIED/ITS) and Adaptive Learning (Manila, Philippines; November 28 - December 2, 2016);
- **EC-TEL'2016**: 11th European Conference on Technology-Enhanced Learning (Lyon, France; September 13-16, 2016);
- **AIMSA'2016**: 17th International Conference on Artificial Intelligence: Methodology, Systems, Applications (Varna, Bulgaria; September 7-9, 2016);
- **ICALT'2016**: 16th IEEE International Conference on Advanced Learning Technologies (Austin, TX, USA; July 25-28, 2016);
- **ICCE'2015**: International Conference on Computers in Education / Special Track on Artificial Intelligence in Education, Intelligent Tutoring System (AIED/ITS) and Adaptive Learning (Hangzhou, China; November 30 - December 4, 2015);
- **ICKM'2015**: International Conference on Knowledge Management (Osaka, Japan; November 4 - 6, 2015);
- **EC-TEL'2015**: European Conference on Technology-Enhanced Learning (Toledo, Spain; September 15-18, 2015);
- **ICALT'2015**: IEEE International Conference on Advanced Learning Technologies (Hualien, Taiwan; July 6-9, 2015);
- **ICCE'2014**: International Conference on Computers in Education / Special Track on AIED, ITS & Adaptive Learning (Nara, Japan; November 30 - December 3, 2014);
- **EC-TEL'2014**: European Conference on Technology-Enhanced Learning (Graz, Austria; September 16-19, 2014);
- **ICALT'2014**: IEEE International Conference on Advanced Learning Technologies / Special Track on Applications of Semantic Web Technologies for E-Learning (Athens, Greece; July 7-10, 2014);
- **ICCE'2013**: International Conference on Computers in Education / Special Track on Artificial Intelligence in Education (Bali, Indonesia; November 18-22, 2013);
- **EC-TEL'2013**: European Conference on Technology-Enhanced Learning (Paphos, Cyprus; September 17-21, 2013);
- **ICCE'2012**: International Conference on Computers in Education / Special Track on Artificial Intelligence in Education (Singapore, Singapore; November 26-30, 2012);
- **EC-TEL'2012**: European Conference on Technology-Enhanced Learning (Saarbrücken, Germany; September 18-21, 2012);
- **CISIS'2011**: International Conference on Software, Services & Semantic Technologies / Special Track on Adaptive and Evolvable Human Computer Interaction Interfaces (Bourgas, Bulgaria; September 1-2, 2011);
- **ESWC'2011**: Extended Semantic Web Conference / Special Track on Social Web (Heraklion, Greece, May 29 - June 2, 2011);
- **FLAIRS'24**: International Conference of the Florida Artificial Intelligence Research Society / Special Track on Semantic Web for e-Learning (Palm Beach, Florida, USA; May 18-20, 2011);
- ACM Symposium On Applied Computing: Intelligent, Interactive and Innovative Learning Environments Track (Tai Chung, Taiwan; March 21-25, 2011);
- **ESWC'2010**: Extended Semantic Web Conference: Social Web Track (Heraklion, Greece; May 30 - June 3, 2010).

#### Organising Committee Chair

- **AIED'2021**: 22th International Conference on Artificial Intelligence in Education (Utrecht, the Netherlands);

#### Organising Committee Member

- **MetaMath'2017**: International Conference «Modern Technologies of Mathematical Education for Engineering Students (St. Petersburg, Russia; February 16-17, 2017);
- **EC-TEL'2012**: European Conference on Technology-Enhanced Learning (Saarbrücken, Germany; September 18-21, 2012);
- **UM'2003**: International Conference on User Modeling (Johnstown, PA, USA; June 22-26, 2003);
- **ICALT'2002**: IEEE International Conference on Advanced Learning Technologies (Kazan, Russia; September 9-12, 2002).

## Workshop Organisation

### Chair

- Workshop on Intelligent Textbooks @AIED2019 (Chicago, IL, USA; June 25, 2019);

- Workshop on AI-supported Education for Computer Science @ICCE'2014 (Nara, Japan; November 30, 2014);
- Workshop on AI-supported Education for Computer Science @ITS'2014 (Honolulu, HI, USA; June 6, 2014);
- Workshop on Technology-Enhanced Learning for Math and Sciences @EC-TEL'2011 (Palermo, Italy; September 21, 2011);

#### Program Committee Member

- Workshop on Educational Data Mining in Computer Science Education @LAK'2019 (Tempe AZ, USA; March 5, 2019);
- Workshop on Knowledge Discovery and User Modelling for Smart Cities @KDD'2018 (London, UK; August 19, 2018);
- Workshop on Educational Data Mining in Computer Science Education @EDM'2018 (Buffalo, NY, USA; July 15, 2018);
- Workshop on Intelligent User-adapted and Context-aware Applications and User Interfaces @UMAP'2018 (Nanyang, Singapore; July 8, 2018);
- Workshop on Learning & Education with Web Data @WebSci'2018 (Amsterdam, Netherlands; May 27, 2018);
- Workshop on Recommender Systems in Education @UMAP'2017 (Bratislava, Slovakia; July 9, 2017);
- Workshop on AI-supported Education for Computer Science @AIED'2013 (Memphis, TN, USA; July 9, 2013);
- Workshop on Recommender Systems for Technology Enhanced Learning @ECTEL'2012 (Saarbrücken, Germany; September 18, 2012);
- Workshop on Adaptation in Social and Semantic Web @UMAP'2012 (Montreal, Canada; July 16, 2012);
- Workshop on Adaptation in Social and Semantic Web @UMAP'2011 (Girona, Spain; June 15, 2011);
- Workshop on Recommender Systems for Technology Enhanced Learning @ECTEL'2010&RecSys'2010 (Barcelona, Spain; September 29-30, 2010);
- Workshop on Information Heterogeneity and Fusion in Recommender Systems @RecSys'2010 (Barcelona, Spain; September 26, 2010);
- Workshop on Adaptation in Social and Semantic Web @UMAP'2010 (Hawaii, USA; June 20, 2010);
- Workshop on Adaptation, Personalization and Recommendation in the Semantic Web @ESWC'2010 (Heraklion, Greece; May 30, 2010);
- Workshop on User Data Interoperability in the Social Web @IUI'2010 (Hong-Kong, China; February 7, 2010);
- Workshop on Ontologies and Social Semantic Web for Intelligent Educational Systems @AIED'2009 (Brighton, UK; July 8, 2009);
- Workshop on Web 3.0: Merging Semantic Web and Social Web @Hypertext'2009 (Turin, Italy; June 29, 2009);
- Workshop on Ubiquitous and Interoperable User Modeling @UMAP'2009 (Trento, Italy; June 22, 2009);
- Workshop on Ontologies and Semantic Web for Intelligent Educational Systems @ITS'2008 (Montreal, Canada; June 23, 2008);
- Workshop on Ontologies and Semantic Web for E-Learning @AIED'07 (Marina del Rey, CA, USA; July 9, 2007).

#### **Invited Talks**

- “Scaling up adaptive educational systems”, XI Latin American Conference in Learning Objects - LACLO 2016 (Cartago, Costa Rica; October 4, 2016).
- “Linking online learning material”, LearnTec 2015: Learning with IT - 23rd International Exhibition and Conference (Karlsruhe, Germany; January 29, 2015).
- “Help me to help you! How adaptive e-learning systems should support their content authors”, 1st symposium on e-Learning@UniGR (Luxembourg, Luxembourg; February 7, 2013).
- “Adaptive Intelligent Educational Systems: Teachers’ Friends, not Foes”. Workshop “Online Teaching: Benefits, Promises and Pitfalls“ @OnlineEduca'2012 (Berlin, Germany; November 29, 2012).

#### **Journal Reviewing**

- ACM Transactions on Speech and Language Processing;
- Artificial Intelligence in Education;
- Computer Applications in Engineering Education;
- Computer Assisted Learning;
- Computers & Education;

- Educational Technology and Society;
- IEEE Transactions on Education;
- IEEE Transactions on Learning Technologies;
- Knowledge-Based Systems;
- Metadata, Semantics and Ontologies;
- Program;
- Science of Computer Programming;
- User Modeling and User-Adapted Interaction
- World Wide Web Journal.

### Journal Editing

- Editorial Board Member: Frontiers in Artificial Intelligence – Section on AI for Human Learning and Behavior Change (October, 2018 – Present);
- Editorial Board Member: IEEE Transactions on Learning Technology – IEEE TLT (January, 2016 – Present);
- Special Issue Associate Editor: International Journal of Artificial Intelligence in Education (IJAIED); AI-supported Education in Computer Science (2017), 27(1);
- Special Issue Associate Editor: International Journal of Artificial Intelligence in Education (IJAIED); Emerging Technologies and Landmark Systems for Learning Mathematics and Science: Dedicated to the Memory of Erica Melis (2014), 24(3,4);
- Editorial Board Member: Educational Technology and Society: East-European Chapter (January, 2014 - February, 2017);
- Assistant Editor (July, 1999 – September, 2002): East-European Section of International Journal Educational Technology and Society (ET&S).

### Community Oriented Projects:

- O4E – Community Portal on Ontologies for Education (<http://o4e.iiscs.wssu.edu/xwiki/bin/view/Blog/About>);
- IFETS-EAST-EURO: East-European Chapter of International Forum on Educational Technology & Society (under the aegis of IEEE LTF) (<http://ifets.ieee.org/russian/>).

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### Professional Membership

<b>2014 – 2016</b>	ACM ITiCSE Working Group on Increasing Accessibility and Adoption of Smart Technologies for Computer Science Education
<b>2013 – 2015</b>	COST-Action KEYSTONE - Semantic Keyword-based Search on Structured Data Sources
<b>2012 – 2015</b>	Gesellschaft für Informatik (GI) /German Computer Science Society
<b>2010 – Present</b>	European Association for Technology-Enhanced Learning (EA-TEL)
<b>2008 – 2016</b>	Association for Computing Machinery (ACM)
<b>2007 – 2008</b>	Association for the Advancement of Artificial Intelligence (AAAI)
<b>2000 – 2002</b>	IEEE Learning Technology Task Force (LTF)
<b>1998 – Present</b>	International Artificial Intelligence in Education Society

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### Professional Development

<b>2005</b>	3rd Summer School on Ontological Engineering and the Semantic Web – SSSW-05 (Cercedilla, Spain)
<b>2001</b>	Summer School on Modern Technology for Learning and Knowledge Assessment (Kazan, Russia)

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### Publications

#### Edited Books

1. Pohjolainen, S., Myllykoski, T., Mercat, C. & Sosnovsky, S. (Eds.) (2018). *Modern mathematics education for engineering curricula in Europe*. Berlin/Heidelberg, Germany: Springer, ISBN: 978-3-319-71416-5.

#### Peer-reviewed journal papers

2. Snegurenko A., Sosnovsky S., Novikova S., Yakhina R., Valitova N., Kremleva E. (2019) Using e-learning tools to enhance students-mathematicians' competences in the context of international academic mobility programmes. *Integration of Education*, 23(1) (8-22).
3. Tacoma, S., Sosnovsky, S., Boon, P., Jeuring, J., & Drijvers, P. (2018). The interplay between inspectable student models and didactics of statistics. *Digital Experiences in Mathematics Education* 4(2-3), (139-162).
4. Novikova S., Sosnovsky S., Yakhina R., Valitova N., Kremleva E. (2017) The specific aspects of designing computer-based tutors for future engineers in numerical methods studying. *Integration of Education*, 21(2), (322-343).
5. Barnes, T., Boyer, K., Hsiao, S., Le, N.-T., & Sosnovsky, S. (2017). Preface for the special issue on AI-supported education in computer science. *Artificial Intelligence in Education*, 27(1), (1-4).
6. Sosnovsky, S., & Brusilovsky, P. (2015). Evaluation of topic-based adaptation and user modeling in QuizGuide. *User Modeling and User-Adapted Interaction*, 25(4), (371-424).
7. Sosnovsky, S., Girenko A., & Galeev, I. (2014). Informatisation of the mathematical component of STEM education in the framework of the MetaMath project. *Educational Technology & Society*, 17(4), (446-457).\*
8. Sosnovsky, S., McLaren, B.M., & Aleven, V. (2014). Preface - emerging technologies and landmark systems for learning mathematics and science: dedicated to the memory of Erica Melis - part 2. *Artificial Intelligence in Education*, 24(4), (383-386).
9. McLaren, B.M., Sosnovsky, S., & Aleven, V. (2014). Preface - emerging technologies and landmark systems for learning mathematics and science: dedicated to the memory of Erica Melis - part 1. *Artificial Intelligence in Education*, 24(3), (211-215).
10. Narciss, S., Sosnovsky S., Schnaubert, L., Andrès, E., Eichelmann, A., Gogvadze, G., & Melis, E. (2014). Exploring feedback and student characteristics relevant for personalizing feedback strategies. *Computers and Education*, 71, (56-76).
11. Hsiao, I-H., Sosnovsky, S., & Brusilovsky, P. (2010). Guiding students to the right questions: adaptive navigation support in an e-learning system for Java programming, *Journal of Computer Assisted Learning*, 26(4), (270-283).
12. Sosnovsky, S., & Dicheva, D. (2010). Ontological technologies for user modelling. *International Journal of Metadata, Semantics and Ontologies*, 5(1), (32-71).
13. Brusilovsky, P., Sosnovsky, S., Lee, D., Yudelson, M., Zadorozhny, V., & Zhou, X. (2010). Learning SQL programming with interactive tools: From integration to personalization. *ACM Transactions on Computing Education*, 9(4), Article No. 19 (1-15).
14. Brusilovsky, P., Sosnovsky, S., & Yudelson, M. (2009). Addictive links: the motivational value of adaptive link annotation. *New Review of Hypermedia and Multimedia*, 15(1), (97-118).
15. Sosnovsky, S., & Gavrilova, T. (2006). Development of educational ontology for C-programming. *International Journal on Information Theories & Applications*, 13(4), (303-308).
16. Brusilovsky, P., & Sosnovsky, S. (2005). Individualized exercises for self-assessment of programming knowledge: An evaluation of QuizPACK. *ACM Journal on Educational Resources in Computing*, 5(3), Article No. 6 (1-22).
17. Brusilovsky, P., Shcherbinina, O., & Sosnovsky, S. (2004). Mini-languages for non-computer science majors: What are the benefits? *International Journal of Interactive Technology and Smart Education* 1(1), (3-10).
18. Galeev, I., Chepegin V., & Sosnovsky, S. (2002). MONAP-II – authoring tools for intelligent tutoring systems. *International Journal of Controlling Systems and Machines*, 3(4), (80-86).\*

### Book chapters

19. Sosnovsky, S. (2018). TEMPUS Projects MetaMath and MathGeAr. In S. Pohjolainen, T. Myllykoski, C. Mercat, & S. Sosnovsky, (Eds.), *Modern mathematics education for engineering curricula in Europe* (pp. 7-16). Berlin/Heidelberg, Germany: Springer.
20. Sosnovsky, S. (2018). Methodology for Comparative Analysis of Courses. In S. Pohjolainen, T. Myllykoski, C. Mercat, & S. Sosnovsky, (Eds.), *Modern mathematics education for engineering curricula in Europe* (pp. 33-38). Berlin/Heidelberg, Germany: Springer.

21. Sosnovsky, S., Mercat, C., & Pohjolainen, S. (2018). Overview of the Results and Recommendations. In S. Pohjolainen, T. Myllykoski, C. Mercat, & S. Sosnovsky, (Eds.), *Modern mathematics education for engineering curricula in Europe* (pp. 185-196). Berlin/Heidelberg, Germany: Springer.
22. Herder E., Sosnovsky S., & Dimitrova V. (2017). Adaptive intelligent learning environments. In E. Duval, M. Sharples, R. Sutherland (Eds.), *Technology Enhanced Learning: Research Themes* (pp. 109-114). Berlin/Heidelberg, Germany: Springer.
23. Sosnovsky, S., Dietrich, M., Andrès, E., Gogvadze, G., Winterstein, S., Libbrecht, P., Siekmann, J., & Melis, E. (2014). Math-Bridge: Bridging the gaps in European remedial mathematics with technology-enhanced learning. In T. Wassong, D. Frischmeier, P. R. Fischer, R. Hochmuth, & P. Bender (Eds.), *Mit Werkzeugen Mathematik und Stochastik lernen – Using Tools for Learning Mathematics and Statistics* (pp. 437-451). Berlin/Heidelberg, Germany: Springer.
24. Sosnovsky, S., Dietrich, M., Andrès, E., Gogvadze, G., & Winterstein, S. (2014). Math-Bridge: Adaptive Plattform für Mathematische Brückenkurse. In I. Bausch, R. Biehler, R. Bruder, P. R. Fischer, R. Hochmuth, W. Koepf, S. Schreiber, & T. Wassong, (Eds.), *Konzepte und Studien zur Hochschuldidaktik und Lehrerbildung Mathematik* (pp. 231-242). Berlin/Heidelberg, Germany: Springer. §
25. Sosnovsky, S., Brusilovsky, P., Yudelson, M., Mitrovic, A., Mathews, M., & Kumar, A. (2009). Semantic Integration of Adaptive Educational Systems. In T. Kuflik, S. Berkovsky, F. Carmagnola, D. Heckmann, & A. Krüger (Eds.), *Advances in ubiquitous user modelling* (pp. 134-158). Berlin/Heidelberg, Germany: Springer.

### Conference papers

26. Alpizar-Chacon, I., Erensoy, Ö., & Sosnovsky, S. (2019). Order out of Chaos: Construction of Knowledge Models from PDF Textbooks. In *Proceedings of ECIR '2020: 42nd European Conference on Information Retrieval, Lisbon, Portugal, April 14-17, 2020* (submitted). New York, NY, USA: ACM Press.
27. Alpizar-Chacon, I., & Sosnovsky, S. (2019). Expanding the Web of Knowledge: One Textbook at a Time. In *Proceedings of ACM Hypertext '2019: 30th International Conference on Hypertext and Social Media, Hof, Germany, September 17-20, 2019* (pp. 9-18). New York, NY, USA: ACM Press. (**Best Paper Award**)
28. Bor - de Vries, M., Drijvers, P., Boon, P., Tacoma, T., Heeren, B., Jeurig, J., Sosnovsky, S., van Zon, W., Steenbergen, N., Koops, J., Weinberger, A., Grugeon-Allys, B., & Chenevotot-Quentin, F. (2019). Student Models to Generate Automated Feedback on Intermediate Steps in Solving Mathematics Problems. In *Proceedings of 14th International Conference on Technology in Mathematics Teaching, Essen, Germany, July 22-25, 2019*.
29. Sosnovsky, S., Brusilovsky, P., Agrawal, R., Baraniuk, R., & Lan, A. (2019). Intelligent Textbooks. In *Proceedings of AIED '2019: 19th International Conference on Artificial Intelligence in Education, Chicago, IL, USA, June 25-29, 2019* (1 page). Berlin/Heidelberg, Germany: Springer.
30. Sosnovsky, S., Müter, L., Valkenier, M., Brinkhuis, M., & Hofman, A. (2018). Detection of Student Modelling Anomalies. In V. Pammer-Schindler, M. Pérez-Sanagustín, H. Drachsler, R. Elferink, & M. Scheffel (Eds.) *Proceedings of EC-TEL '2018: 13th European Conference on Technology Enhanced Learning* (pp. 531-536). Berlin/Heidelberg, Germany: Springer.
31. Heeren, B., Jeurig, J., Sosnovsky, S., Drijvers, P., Boon, P., Tacoma, S., Koops, J., Weinberger, A., Grugeon-Allys, B., Chenevotot-Quentin, F., van Wijk, J., & van Walree, F. (2018). Fine-Grained Cognitive Assessment Based on Free-Form Input for Math Story Problems. In V. Pammer-Schindler, M. Pérez-Sanagustín, H. Drachsler, R. Elferink, & M. Scheffel (Eds.) *Proceedings of EC-TEL '2018: 13th European Conference on Technology Enhanced Learning* (pp. 262-276). Berlin/Heidelberg, Germany: Springer.
32. Gu, Y., & Sosnovsky, S. (2017). Better later than ever: comparative analysis of feedback strategies in a dynamic intelligent virtual reality training environment for child pedestrians. In É. Lavoué, H. Drachsler, K. Verbert, J. Broisin, & Mar Pérez-Sanagustín (Eds.) *Proceedings of EC-TEL '2017: 12th European Conference on Technology Enhanced Learning* (pp. 561-565). Berlin/Heidelberg, Germany: Springer.
33. Gu, Y., Sosnovsky, S., & Ullrich C. (2015). SafeChild: an intelligent virtual reality environment for training pedestrian safety skills. In G. Conole, T. Klobucar, C. Rensing, J. Konert, É. Lavoué (Eds.) *Proceedings of EC-TEL '2015: 10th European Conference on Technology Enhanced Learning* (pp. 141-154). Berlin/Heidelberg, Germany: Springer.
34. Gu, Y., Sosnovsky, S., & Ullrich C. (2015). Modeling children's pedestrian safety skills in an intelligent virtual reality learning environment. In C. Conati, N. Heffernan, A. Mitrovic, M. F. Verdejo (Eds.)

- Proceedings of AIED'2015: 17th International Conference on Artificial Intelligence in Education* (pp. 604-607). Berlin/Heidelberg, Germany: Springer.
35. Sonntag, D., Orlosky, J., Weber, M., Gu, Y., Sosnovsky, S., Toyama, T., & Toosi, E.N. (2015). Cognitive Monitoring via Eye Tracking in Virtual Reality Pedestrian Environments. In *Proceedings of the 4th International Symposium on Pervasive Displays* (pp. 269-270). New York, NY, USA: ACM Press.
  36. Orlosky, J., Weber, M., Gu, Y., Sonntag, D., & Sosnovsky, S. (2015). An interactive pedestrian environment simulator for cognitive monitoring and evaluation. In *Proceedings of the companion publication of IUI'2015: 20th International Conference on Intelligent User Interfaces* (pp. 57-60). New York, NY, USA: ACM Press.
  37. Narciss, S., Sosnovsky S., & Andrès, E. (2014). Adapting tutoring feedback strategies to motivation. In S. de Freitas, C., Rensing, T. Ley, & P.J. Muñoz Merino (Eds.), *Proceedings of EC-TEL'2014: 9th European Conference on Technology Enhanced Learning* (pp. 288-301). Berlin/Heidelberg, Germany: Springer.
  38. Sosnovsky, S., & Alpizar-Chacon, I. (2014). Semantic gap detection in metadata of adaptive learning environments. In *Proceedings of ICALT'2014: 14th International Conference on Advanced Learning Technologies* (pp. 548-552). IEEE Computer Society.
  39. Hernando, M., Sosnovsky, S., Guzmán, E., Andrès, E., & Narciss, S. (2014). Towards IRT-based student modeling from problem solving steps. In Stamper, J., Pardos, Z., Mavrikis, M., McLaren, B.M. (Eds.) *Proceedings of EDM'2014: 7th International Conference on Educational Data Mining* (pp. 423-424). New York, NY, USA: ACM Press.
  40. Gu, Y., & Sosnovsky, S. (2014). Recognition of student intentions in a virtual reality training environment. In *Proceedings of the companion publication of IUI'2014: 19th International Conference on Intelligent User Interfaces* (pp. 69-72). New York, NY, USA: ACM Press.
  41. Guerra, J., Sosnovsky, S., & Brusilovsky, P. (2013). When one textbook is not enough: Linking multiple textbooks using probabilistic topic models. In D. Hernández-Leo, T. Ley, R., Klamma, & A. Harrer (Eds.), *Proceedings of EC-TEL'2013: 8th European Conference on Technology Enhanced Learning* (pp. 125-138). Berlin/Heidelberg, Germany: Springer.
  42. Sosnovsky, S., Hsiao, I-H., & Brusilovsky, P. (2012). Adaptation “in the wild”: Ontology-based personalization of open-corpus learning material. In A. Ravenscroft, S. Lindstaedt, C. Delgado Kloos, & D. Hernández-Leo (Eds.), *Proceedings of EC-TEL'2012: 7th European Conference on Technology Enhanced Learning* (pp. 425-431). Berlin/Heidelberg, Germany: Springer.
  43. Sosnovsky, S., Dietrich, M., Andrès, E., Gogvadze, G., & Winterstein, S. (2012). Math-Bridge: Adaptive platform for multilingual mathematics courses. In A. Ravenscroft, S. Lindstaedt, C. Delgado Kloos, & D. Hernández-Leo (Eds.), *Proceedings of EC-TEL'2012: 7th European Conference on Technology Enhanced Learning* (pp. 495-500). Berlin/Heidelberg, Germany: Springer.
  44. Schnaubert, L., Andrès, E., Narciss, S., Sosnovsky, S., Eichelmann, A., & Gogvadze, G. (2012). Using local and global self-evaluations to predict students' problem solving behaviour. In A. Ravenscroft, S. Lindstaedt, C. Delgado Kloos, & D. Hernández-Leo (Eds.), *Proceedings of EC-TEL'2012: 7th European Conference on Technology Enhanced Learning* (pp. 334-347). Berlin/Heidelberg, Germany: Springer.
  45. McLaren, B.M., Adams, D., Durkin, K., Gogvadze, G., Mayer, R.E., Rittle-Johnson, B., Sosnovsky, S., Isotani, S., & Van Velsen, M. (2012). To err is human, to explain and correct is divine: A study of interactive erroneous examples with middle school math students. In A. Ravenscroft, S. Lindstaedt, C. Delgado Kloos, & D. Hernández-Leo (Eds.), *Proceedings of EC-TEL'2012: 7th European Conference on Technology Enhanced Learning* (pp. 222-235). Berlin/Heidelberg, Germany: Springer.
  46. Eichelmann, A., Andrès, E., Schnaubert, L., Narciss, S. & Sosnovsky, S. (2012). Interactive error detection and correction tasks: Acceptance and usability study with sixth and seventh graders. In G. Csanyi, F. Reichl & A. Steiner (Eds.), *Proceedings of Digital Media - Tools for Research and Education* (pp. 401-412). Münster, Germany: Waxmann.§
  47. Gogvadze, G., Sosnovsky, S., McLaren, B., & Isotani, S. (2011). Gogvadze, G., Sosnovsky, S., Isotani, S. & McLaren, B.M. (2011). Towards a Bayesian Student Model for Detecting Decimal Misconceptions. In Y. Fu-Yun, T. Hirashima, T. Supnithi, & G. Biswas (Eds.), *Proceedings of ICCE'2011: 19th International Conference on Computers in Education* (pp. 34-41). Thailand: National Electronics and Computer Technology Center.
  48. Gogvadze, G., Sosnovsky, S., McLaren, B., & Isotani, S. (2011). Evaluating a Bayesian Student Model of Decimal Misconceptions. In M. Pechenizkiy, T. Calders, C. Conati, S. Ventura, C. Romero, & J. Stamper,

- (Eds.), *Proceedings of EDM'2011: 4th International Conference on Educational Data Mining* (pp. 301-306). Eindhoven, Netherlands: TU/e printservice.
49. Jednoralski, D., Melis, E., Sosnovsky, S., & Ullrich C. (2010). Gap detection in Web-based adaptive educational systems. In X. Luo, M. Spaniol, L. Wang, Q. Li, W. Nejd, & W. Zhang (Eds.), *Proceedings of ICWL'2010: 9th International Conference on Web-based Learning* (pp. 111-120). Berlin/Heidelberg, Germany: Springer.
  50. Hsiao, I-H., Sosnovsky S., & Brusilovsky, P. (2009). Adaptive navigation support for parameterized questions in object-oriented programming. In U. Cress, V. Dimitrova, & M. Specht (Eds.), *Proceedings EC-TEL'2009: 4th European Conference on Technology Enhanced Learning* (pp. 88-98). Berlin/Heidelberg, Germany: Springer.
  51. Hsiao, I-H., Sosnovsky S., & Brusilovsky, P. (2009). Extending parameterized problem-tracing questions for Java with personalized guidance. In P. Brézillon, I. Russell, & J-M. Labbat (Eds.), *Proceedings of ITiCSE'2009: 14th ACM SIGCSE Annual Conference on Innovation and Technology in Computer Science Education* (pp. 392-392). New York, NY, USA: ACM Press.
  52. Sosnovsky, S., Mitrovic, A., Lee, D., Brusilovsky, P., & Yudelso, M. (2008). Ontology-based integration of adaptive educational systems. In T-W. Chan, G. Biswas, F-C. Chen, S. Chen, C. Chou, M. Jacobson, & J-C. Yang (Eds.), *Proceedings of ICCE'2008: 16th International Conference on Computers in Education* (pp. 11-18). Taipei, Taiwan: Asia-Pacific Society for Computers in Education.
  53. Hsiao, I-H., Brusilovsky, P., & Sosnovsky, S. (2008). Web-based parameterized questions for object-oriented programming. In C. Bonk, M. Lee, & T. Reynolds (Eds.), *Proceedings of E-Learn'2008: World Conference on E-Learning* (pp. 3728-3735). Chesapeake, VA, USA: AACE.
  54. Sosnovsky, S., Brusilovsky, P., Lee, D. H., Zadorozhny, V., & Zhou, X. (2008). Re-assessing the value of adaptive navigation support in e-learning context. In W. Nejd, J. Kay, P. Pu & E. Herder (Eds.), *Proceedings of AH'2008: 5th International Conference on Adaptive Hypermedia and Adaptive Web-Based Systems* (pp. 193-203). Berlin/Heidelberg, Germany: Springer.
  55. Brusilovsky, P., Sosnovsky, S., Lee, D. H., Yudelso, M., Zadorozhny, V., & Zhou, X. (2008). An open integrated exploratorium for database courses. In J. Amillo, C. Laxer, E. Menasalvas, & A. Young (Eds.), *Proceedings of ITiCSE'2008: 13th ACM SIGCSE Annual Conference on Innovation and Technology in Computer Science Education* (pp. 22-26). New York, NY, USA: ACM Press.
  56. Brusilovsky, P., Grant, N., Hsiao, S., Moore, K., & Sosnovsky, S. (2007). Personalized e-learning for distance courses in community colleges. In T. Bastiaens & S. Carliner (Eds.), *Proceedings of E-Learn'2007: World Conference on E-Learning* (pp. 226-231). Chesapeake, VA, USA: AACE.
  57. Sosnovsky, S., Dolog, P., Henze, N., Brusilovsky, P., & Nejd, W. (2007). Translation of overlay models of student knowledge for relative domains based on domain ontology mapping. In R. Luckin, K. R. Koedinger, & J. Greer (Eds.), *Proceedings of AIED'2007: 13th International Conference on Artificial Intelligence in Education* (pp. 289-296). Amsterdam, Netherlands: IOS Press.
  58. Ahn, J., Brusilovsky, P., & Sosnovsky, S. (2006). QuizVIBE: Accessing educational objects with adaptive relevance-based visualization. In T. Reeves, & S. Yamashita (Eds.), *Proceedings of E-Learn'2006: World Conference on E-Learning* (pp. 2707-2714). Chesapeake, VA, USA: AACE.
  59. Brusilovsky, P., Sosnovsky, S., & Yudelso, M. (2006). Addictive links: The motivational value of adaptive link annotation in educational hypermedia. In V. Wade, H. Ashman, & B. Smyth (Eds.), *Proceedings of AH'2006: 4th International Conference on Adaptive Hypermedia and Adaptive Web-Based Systems* (pp. 51-60). Berlin/Heidelberg, Germany: Springer.
  60. Brusilovsky, P., Sosnovsky, S., & Yudelso, M. (2005). Ontology-based framework for user model interoperability in distributed learning environments. In G. Richards (Ed.), *Proceedings of E-Learn'2005: World Conference on E-Learning* (pp. 2851-2855). Chesapeake, VA, USA: AACE.
  61. Brusilovsky, P., Yudelso, M., & Sosnovsky, S. (2005). Collaborative paper exchange. In G. Richards (Ed.), *Proceedings of E-Learn'2005: World Conference on E-Learning* (pp. 2844-2850). Chesapeake, VA: AACE.
  62. Sosnovsky, S., & Gavrilova, T. (2005). Development of educational ontology for C-programming, In V. Gladun, K. Markov, A. Voloshin, & K. Ivanova (Eds.), *Proceedings of KDS'2005: International Conference "Knowledge-Dialogue-Solution"* (pp. 127-131). Sofia, Bulgaria: FOI ITHEA.
  63. Brusilovsky, P., Sosnovsky, S., Yudelso, M., & Chavan, G. (2005). Interactive authoring support for adaptive educational systems. In C.-K. Looi, G. McCalla, B. Bredeweg, & J. Breuker (Eds.), *Proceedings*

- of AIED'2005: 12th International Conference on Artificial Intelligence in Education* (pp. 96-103). Amsterdam, Netherlands: IOS Press.
64. Brusilovsky, P., Sosnovsky, S., & Shcherbinina, O. (2005). User modeling in a distributed e-learning architecture. In L. Ardissono, P. Brna, & A. Mitrovic (Eds.), *Proceedings of UM'2005: 10th International Conference on User Modeling* (pp. 387-391). Berlin/Heidelberg, Germany: Springer.
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