Daria Stepanova
(Dr. techn.)

Curriculum Vitae

Max Planck Institute of Informatics
Saarbücken, Germany
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Personal Information

Born	May 7, 1988 in St. Petersburg, Russia
Nationality	Russian
Languages	Russian (native speaker), English (proficient user), German (upper-intermediate)

Education

07/11–04/15   **PhD student at Vienna University of Technology**, *Vienna*, Austria.

Faculty	Informatics
Program	Mathematical Logic in Computer Science
Thesis	Inconsistencies in Hybrid Knowledge Bases
Research area	Logic Programming, Ontologies, Inconsistency Management
Supervisor	O. Univ. Prof. Dr. techn. Thomas Eiter
Co-supervisor	Dr. Michael Fink
	Average grade: 1.0/1.0 (*graduation with distinction*)

09/05–07/10   **Diploma student at St. Petersburg State University**, *St. Petersburg*, Russia.
equiv. to BSc + MSc

Faculty	Mathematics and Mechanics
Specialization	Applied Informatics
Thesis	Computer-aided Resolution of Unsatisfiabilities in Ontologies
Supervisor	Prof. Dr. techn. Boris Novikov
	Average grade: 4.75/5.0 (*graduation with distinction*)

Awards and Scholarships

2016–2018	Lise Meitner Award Fellowship of Max Planck Institute for Informatics
2011–2015	Scholarship for a Doctoral Program "Mathematical Logic in Computer Science"

Continuing Education

09/16-10/16 **Online course**.
Exploratory Data Analysis by Johns Hopkins University on Coursera

10/11–12/12 **Student at Vienna University of Technology**, *Vienna*, Austria.
German as a foreign language
Levels completed: A 2.1, B 2.2

10/06–07/07 **Student at St. Petersburg State University**, *St. Petersburg*, Russia.
Department of Linguistics
English for professionals
Level completed: advanced

Work Experience

10/15– **Postdoctoral researcher at Max Planck Institute for Informatics (MPII)**,
present *Saarbrücken*, Germany.
Group Databases and Information Systems group
Supervisor Prof. Gerhard Weikum
Responsibilities:
○ Develop algorithms for mining logical formalisms from Knowledge Graphs
○ Student selection and supervision
○ Teaching
Technologies and Skills:
○ Data mining, inductive logic programming

07/11–07/15 **Research assistant at Vienna University of Technology**, *Vienna*, Austria.
Knowledge Based Systems group
Responsibilities:
○ Develop and implement framework for repairing inconsistencies in hybrid knowledge bases (combinations of logic programs and ontologies)
○ Bachelor student supervision
Technologies and skills:
○ C++, Unix Shells, OWL, RDF
`https://github.com/hexhex/dlliteplugin`
○ Declarative logic programming, description logics, complexity analysis
Involved in projects:
○ Reasoning in Hybrid Knowledge Bases (2011–2012)
`http://www.kr.tuwien.ac.at/research/projects/hybridkb/index.html`
○ Evaluation of ASP Programs with External Source Access (2014–2015)

`http://www.kr.tuwien.ac.at/research/projects/hexhex/`

10/09–06/11   **Specialist on system integration at "eKassir"**, *St. Petersburg*, Russia.
Company develops software for payment systems and terminals
Responsibilities:
- Team lead in technical support and remote assistance
- System installation and adjustment on the client's side
- Technical trainings for clients
- Business trips: Podgorica (Montenegro), Akkra (Ghana)

09/08–03/09   **Research intern at Newcastle University**, *Newcastle-upon-Tyne*, UK.
Responsibilities:
- Develop a knowledge-based system for information security decision-making
Technologies and skills:
- OWL, Java Script
Involved in projects:
- Trust Economics (2008-2009)
`https://wiki.cs.ncl.ac.uk/trusteconomics/TrustEconomics`

10/07–08/08,   **Part-time tutor of English for corporate clients at American Language Mas-**
04/09–10/09   **ters (ALM)**, *St. Petersburg*, Russia.

Research Visits

02/2017   **University of Oxford, Oriel College**, *Oxford*, UK.
Project on semantically enhanced sequence mining

05/2016   **Research visit to University of Bari**, *Bari*, Italy.
Project on mining nonmonotonic rules from Knowledge Graphs

Computer Skills

- **Programming Languages**
JAVA, C, C++, Java Script, R
- **Knowledge Based Systems**
RDF, RDFS, OWL, Logic Programming
- **Operating Systems**
Linux (Ubuntu), Microsoft Windows

Additional Computer Experience

- Plugin for Repairing Inconsistent DL-programs (C++) within dlvhex framework
  `https://github.com/hexhex/dlliteplugin`
- Participant at 6th Angry Birds AI competition (`http://www.aibirds.org`), co-located with IJCAI 2017 as a member of the AngryHEX team
  Ranked 3rd out of 10 participants
- Knowledge Base for Justified Information Security Decision-making based on ISO 27002 (Information Security Standard) and UCISA Information Security Toolkit (`http://www.ucisa.ac.uk/istoolkit`) (OWL Ontology Web Language, JOWL Java Script library for visualizing OWL-RDFS documents)
- Diploma thesis project: Computer-aided Resolution of Unsatisfiabilities in Ontologies (Java)

Supervising Students

- PhD: Mohamed Gad Elrab (September 2015 - present) (co-supervised with Prof. Gerhard Weikum)
- Masters: Hai Dang Tran (June 2016 - April 2017): *Nonmonotonic Rule Learning from Knowledge Graphs*
  Thinh Vinh Ho (September 2017 - present): *Combining Rule Learning and Tensor Factorization for Link Prediction in Knowledge Graphs*
- Interns: Thomas Pellissier Tanon (March - May 2017): *Completeness-aware Rule Learning*
- Bachelors: Andreas Humenberger (graduated April, 2014): *Implementing Paracoherent Answer Set Semantics* (co-supervised with Dr. Michael Fink)

Talks Given at Conferences and Workshops

Towards Nonmonotonic Relational Learning from Knowledge Graphs

26th Inductive Logic Programming Conference

London, United Kingdom, September, 2016

Towards Practical Deletion Repair of Inconsistent DL-programs

21st European Conference on Artificial Intelligence

Prague, Czech Republic, August, 2014

Towards Practical Deletion Repair of Inconsistent DL-programs

27th International Workshop on Description Logics

Vienna, Austria, July, 2014

Data Repair of Inconsistent DL-programs

23rd Joint International Conference on Artificial Intelligence

Beijing, China, August, 2013

Semantic Independence in DL-programs

6th International Conference on Web Reasoning and Rule Systems

Vienna, Austria, September, 2012

A Knowledge Base for Justified Information Security Decision-making

4th International Conference on Software and Data Technologies

Sofia, Bulgaria, July, 2009

A Knowledge Base for Justified Information Security Decision-making (progress report)

Trust Economics Workshop

Newcastle-upon-Tyne, United Kingdom, December, 2008

Poster Presentations

Towards Nonmonotonic Relational Learning from Knowledge Graphs

26th Inductive Logic Programming Conference

London, United Kingdom, September, 2016

Inconsistenies in Hybrid Knowledge Bases (PhD Description)

14th International Conference on Principles of Knowledge Representation and Reasoning

Vienna, Austria, July, 2014

Exploiting Support Sets for Answer Set Programs with External Evaluations

28th Conference on Artificial Intelligence

Quebec, Canada, July, 2014

AngryHEX: An Angry Birds-playing Agent based on HEX-Programs

Angry Birds AI competition (http://www.aibirds.org)

Prague, Czech Republic, August, 2014

Data Repair of Inconsistent DL-programs

23rd Joint International Conference on Artificial Intelligence

Beijing, China, August, 2013

Program Committee Membership

- Portuguese Conference on Artificial Intelligence (EPIA): 2017
- International Conference on Artificial Intelligence (AAAI): 2017
- Workshop on Trends and Applications of Answer Set Prog. (TAASP): 2016
- Conference on Web Reasoning and Rule Systems (RR): 2016
- European machine learning and data mining conference (ECMLPKDD): 2016, 2017
- Conference on Knowledge Engineering and Semantic Web (KESW): 2013, 2014, 2015, 2016

Reviewing for Journals

- Journal of Data Mining and Knowledge Discovery (DAMI): 2017
- Journal of Computer Science and Technology (JCST): 2017

- ○ Journal of Data Semantics (JoDS): 2015
- ○ Journal of Web Semantics (JWS): 2014

Reviewing for Conferences and Workshops

- ○ International Joint Conference on Artificial Intelligence (IJCAI): 2016
- ○ International Description Logic Workshop (DL): 2015
- ○ International Workshop on Nonmonotonic Reasoning (NMR): 2014
- ○ International Workshop on Reactive Concepts in Knowledge Representation (RE-ACTKNOW): 2014
- ○ International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR): 2013, 2015
- ○ AAAI Conference on Artificial Intelligence (AAAI): 2013
- ○ International Semantic Web Conference (ISWC): 2013
- ○ International Conference on Scalable Uncertainty Management (SUM): 2013
- ○ Int. Conf. on Logic Programming and Nonmonotonic Reasoning (LPNMR): 2013
- ○ Conf. on Knowledge Engineering and Semantic Web (KESW): 2013, 2014, 2015

Volunteer Work in Organizing Conferences and Public Events

- ○ Vienna Summer of Logic (VSL 2014), Vienna, Austria, July, 2014
- ○ 25th International Conference on Computer-aided verification (CAV 2013), St. Petersburg, Russia, July, 2013
- ○ Rhythmic Gymnastics European Champ., Vienna, Austria, May-June, 2013
- ○ 6th International Conference on Web Reasoning and Rule Systems, Vienna, Austria, September, 2012

Publication List

Thomas Pellissier Tanon, Daria Stepanova, Simon Razniewski, Paramita Mirza, and Gerhard Weikum. Completeness-aware rule learning from knowledge graphs. *International Semantic Web Conference (ISWC 2017)*, 2017.

Sergey Paramonov, Daria Stepanova, and Pauli Miettinen. Hybrid approach to asp-based pattern mining. *Rules and Reasoning Systems (RuleML+RR 2017)*, 2017.

Francesca A. Lisi and Daria Stepanova. Combining nonmonotonic reasoning and rule learning for link prediction in knoweldge graphs. *Rules and Reasoning Systems (RuleML+RR 2017)*, 2016 (**Best Poster Award**).

Mohamed Gad-elrab, Daria Stepanova, Jacopo Urbani, and Gerhard Weikum. Exception-enriched rule learning from knoweldge graphs. *39th German Conference on Artificial Intelligence (KI 2016)*, 2016.

Mohamed Gad-elrab, Daria Stepanova, Jacopo Urbani, and Gerhard Weikum. Exception-enriched rule learning from knoweldge graphs. *International Semantic Web Conference (ISWC 2016)*, 2016.

Francesco Calimeri, Michael Fink, Stefano Germano, Andreas Humenberger, Giovambattista Ianni, Christoph Redl, Daria Stepanova, Andrea Tucci, and Anton Wimmer. Angry-hex: An artificial player for angry birds based on declarative knowledge bases. *IEEE Trans. Comput. Intellig. and AI in Games*, 8(2):128–139, 2016.

Thomas Eiter, Michael Fink, and Daria Stepanova. Data repair of inconsistent nonmonotonic description logic programs. *Artif. Intell. (JAI)*, 239:7–53, 2016.

Thomas Eiter, Michael Fink, and Daria Stepanova. Computing repairs of inconsistent dl-programs over EL ontologies. *J. Artif. Intell. Res. (JAIR)*, 56:463–515, 2016.

Thomas Eiter, Michael Fink, and Daria Stepanova. Computing repairs for inconsistent DL-programs over EL ontologies. In *Proceedings of the 14th International Conference on Logics in Artificial Intelligence (JELIA 2014), 426-441*, 2014.

Thomas Eiter, Michael Fink, and Daria Stepanova. Towards practical deletion repair of inconsistent DL-programs. In *Proceedings of 21st European Conference on Artificial Intelligence (ECAI 2014), 285-290*, 2014.

Thomas Eiter, Michael Fink, , and Daria Stepanova. Towards practical deletion repair of inconsistent DL-programs. In *Proceedings of the 27th International Workshop on Description Logics (DL workshop 2014), 169-180*, 2014.

Thomas Eiter, Michael Fink, Christoph Redl, and Daria Stepanova. Exploiting support sets for answer set programs with external computations. In *Proceedings of 28th Conference on Artificial Intelligence (AAAI 2014), 1041-1048*, 2014.

Daria Stepanova. Inconsistencies in hybrid knowledge bases. In *Proceedings of 14th Doctoral Consortium on Knowledge Represenation (DC of KR 2014)*, 2014.

Thomas Eiter, Michael Fink, and Daria Stepanova. Data repair of inconsistent DL-programs. In *Proceedings of 23rd International Joint Conference on Artificial Intelligence (IJCAI 2013)*, 2013.

Thomas Eiter, Michael Fink, and Daria Stepanova. Inconsistency management for Description Logic Programs and beyond. In *Proceedings of 7th International Conference on Web Reasoning and Rule Systems (RR 2013), 1-3*, 2013.

Thomas Eiter, Michael Fink, and Daria Stepanova. Semantic independence in DL-programs. In *Proceedings of 6th International Conference on Web Reasoning and Rule Systems (RR 2012), 58-74*, 2012.

Daria Stepanova, Simon E. Parkin, and Aad van Moorsel. A knowledge base for justified information security decision-making. In *Proceedings of 4th International Conference on Software and Data Technologies (ICSOFT 2009), 326-331*, 2009.

Additional Information

Candidate for Master of Sports (rhythmic gymnastics)

Hobbies: volleyball, table tennis, ultimate frisbee.

References are available upon request.