

Umutcan Simsek, MSc.

Curriculum Vitae

Innsbruck
Austria

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Education

2016

PhD in Computer Science (Ongoing), *Semantic Technology Institute Innsbruck, Department of Computer Science, University of Innsbruck, Innsbruck, Austria*

2013

MSc in Computer Science, *Ege University, Izmir, Turkey.*

2015

2013

MSc in Computer Science, *Technische Hochschule Mittelhessen University of Applied Sciences, Giessen, Germany.*

2015

2009

2013

BSc Computer Science, *Ege University, Izmir, Turkey, 3.42/4.00.*
Graduated in the first 10%

PhD thesis

title *Service-driven Goal-oriented Dialog Systems*

supervisors Univ.-Prof. Dr. Dieter Fensel
Univ.-Prof. Dr. Justus Piater

description This thesis aims to decouple dialog systems from their back-ends and generate dialogs semi-automatically by leveraging lightweight semantic annotations of web services. (Ongoing)

Master thesis

title *Semantic Enrichment of Content Management Systems: An Application on Joomla! CMS*

supervisors Assoc. Prof. Cenk Erdur, Ege University, Izmir, Turkey
Prof. Dr. Peter Kneisel, Technische Hochschule Mittelhessen University of Applied Sciences, Giessen, Germany

description This thesis aims to have JCR/CMIS incompatible content management systems gain semantic features while avoiding to lead major changes in third user's conventions. Additionally, another outcome will be creating a use case for Interactive Knowledge Stack.

Bachelor thesis

title *Medical Linked Data Integration*

supervisors Assoc. Prof. Cenk Erdur, Ege University, Izmir, Turkey

description In the scope of this work, I retrieved, refined and integrated relevant data from Linked Open Drug Data cloud for pharmacology researchers and created a prototype for a mashup application.

Achievements

- netidee Scholarship 2018
- Best Paper Award with semantify.it, a Platform for Creation, Publication and Distribution of Semantic Annotations at SEMAPRO 2017, The Eleventh International Conference on Advances in Semantic Processing, Barcelona, Spain, November 2017
- Runner-up at ESWC 2015 Summer School Student Project Competition

Projects

2018 **MindLab**, *Knowledge Graph-enabled conversational agents*, University of Innsbruck and other partners, Private funding.

2018 **Tyrolean Knowledge Graph**, *A Knowledge Graph for Tyrolean tourism*, <https://tirol.kg>.

2018 **DACH-KG**, *An initiative to create common schemas for tourism data in Germany, Austria, Switzerland and South Tyrol*, Co-founder.

2018 **Innovationslehrgang "Digital Tourism Experts"**, *A project to facilitate the know-how transfer between universities and tourism professionals to help the digitalization in tourism.*

2017 **semantify.it: A platform for supporting the annotation lifecycle (Ongoing)**, *Semantic Technology Institute Innsbruck, Department of Computer Science, University of Innsbruck*, Co-Founder.

2019 **A URI Concept for German Tourism**, *A conceptualization contracted by German National Tourist Board for finding canonical URIs from well-known external sources for content created by Regional Marketing Organizations.*

2015
2018 **ENTROPY: Design of an innovative energy-aware it ecosystem for motivating behavioural changes towards the adoption of energy efficient lifestyles**, *University of Innsbruck and other partners.*

2017 **Tirol Werbung Schema.org Annotation and Mapping**, *STI Innsbruck, Department of Computer Science, University of Innsbruck.*

Languages

Turkish Native
English Fluent
German Fluent

Interests

Academic Interests Semantic Web, Linked Data, Knowledge Graphs, SHACL, schema.org, Lightweight Semantic Web Services, Dialog Systems

Experience

Vocational

2015

Researcher, *Semantic Technology Institute*, Innsbruck, Austria.

2013

2015

Lead Software Developer, *Aura Informatics*, Izmir, Turkey.

Took part various software projects. After September 2014, remote software maintenance and coordination of other projects from Germany

2010

2013

Part-time IT Team Coordinator, *ARGEFAR*, Izmir, Turkey.

Developed software to improve pharmaceutical research and development processes

Teaching

2019

Lecturer, *University of Innsbruck*, Innsbruck, Austria.

Booking and Yield Management

2019

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Semantic Web

2018

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Semantic Web

2018

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Semantic Web Services

2017

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Semantic Web

2017

Lecturer, *University of Innsbruck*, Innsbruck, Austria.

Booking and Yield Management

2017

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Artificial Intelligence

2016

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Semantic Web

2016

Tutor, *University of Innsbruck*, Innsbruck, Austria.

Semantic Web Services

2015

Lecturer, *Technische Hochschule Mittelhessen*, Giessen, Germany.

Block seminar in Turkish language for bachelor students

Supervised Theses

Master Theses

2016

2019

Omar Holzknicht, *University of Innsbruck*, Innsbruck, Austria.

Thesis: Domain Specific Validation of Schema.org Annotations

Bachelor Theses

2020

Elias Jochum, *University of Innsbruck*, Innsbruck, Austria.

Thesis: Ontology-based backend generator for Intelligent Personal Assistants

2016

Christian Schulze, *Technische Hochschule Mittelhessen*, Giessen, Germany.

Thesis: Machine Learning for Atmosphere Classification of Movies

Reviewerships in Conferences and Journals

2016

WIMS, *6th International Conference on Web Intelligence, Mining and Semantics*, Subreviewer.

2016

ARES, *2016 International Conference on Availability, Reliability and Security*, Subreviewer.

2016

KSEM, *9th International Conference on Knowledge Science, Engineering and Management*, Subreviewer.

2016

EKAW, *20th International Conference on Knowledge Engineering and Knowledge Management*, Subreviewer.

2017

GloTS, *The Global IoT Summit*, Reviewer.

2017

KSEM, *10th International Conference on Knowledge Science, Engineering and Management*, Subreviewer.

2017

KEOD, *9th International Conference on Knowledge Engineering and Ontology Development*, Subreviewer.

2018

J.UCS, *Journal of Universal Computer Science, Special Issue New trends in Semantic Web-based applications*, Reviewer.

2018

DATALEB, *Data for Low Energy Buildings*, Reviewer.

2018

KSEM, *11th International Conference on Knowledge Science, Engineering and Management*, Subreviewer.

2018

KEOD, *10th International Conference on Knowledge Engineering and Ontology Development*, Subreviewer.

2018

EKAW, *21th International Conference on Knowledge Engineering and Knowledge Management*, Subreviewer.

2019

KEOD, *11th International Conference on Knowledge Engineering and Ontology Development*, Subreviewer.

2019

PSI, *A.P. Ershov Informatics Conference (the PSI Conference Series, 12th edition)*, Subreviewer.

Books

2020

Fensel, Dieter, Umutcan Şimşek, Kevin Angele, Elwin Huaman, Elias Kärle, Oleksandra Panasiuk, Ioan Toma, Jürgen Umbrich, and Alexander Wahler. *Knowledge Graphs: Methodology, Tools and Selected Use Cases*. Springer Nature..

2017

Fensel, Dieter, Hannes Werthner, Simon Falkensteiner, Stephanie Falkner, Eva-Maria Hänel, Andrea Hochmuth, Marc Isop, Elias Kärle, Christoph Pippa, Andrea Sartori, Umutcan Simsek, Micheal Thaler, and Alexander Wahler. *Der Beherbergungsbetrieb und seine Webpräsenz*. Vienna: Bundesministerium für Wissenschaft, Forschung und Wirtschaft..

Book Chapters

- 2020 • Angele, Kevin, Dieter Fensel, Elwin Huaman, Elias Kärle, Oleksandra Panasiuk, Umutcan Şimşek, Ioan Toma, and Alexander Wahler. “Semantic Web Empowered E-Tourism”. In: *Handbook of e-Tourism*. Springer International Publishing, pp. 1–46..

Journal Publications

- 2018 • Balci, Boran Taylan, Umutcan Şimşek, Elias Kärle, and Dieter Fensel. “Analysis of Schema.org Usage in the Tourism Domain”. In: *e-Review of Tourism Research*..
- 2018 • Panasiuk, Oleksandra, Elias Kärle, Umutcan Simsek, and Dieter Fensel. “Defining Tourism Domains for Semantic Annotation of Web Content”. In: *e-Review of Tourism Research*..
- 2018 • Simsek, Umutcan and Dieter Fensel. “Now We Are Talking! Flexible and Open Goal-Oriented Dialogue Systems for Accessing Touristic Services”. In: *e-Review of Tourism Research*..
- 2017 • Fotopoulou, Eleni, Anastasios Zafeiropoulos, Fernando Terroso-Sáenz, Umutcan Şimşek, Aurora González-Vidal, George Tsiolis, Panagiotis Gouvas, Paris Liapis, Anna Fensel, and Antonio Skarmeta. “Providing Personalized Energy Management and Awareness Services for Energy Efficiency in Smart Buildings”. In: *Sensors* 17.9, p. 2054..

Publications in Conferences and Workshops

- 2020 • Şimşek, Umutcan, Jürgen Umbrich, and Dieter Fensel. “Towards a Knowledge Graph Lifecycle: A pipeline for the population of a commercial Knowledge Graph”. In: *Proceedings of Conference on Digital Curation Technologies (Qurator 2020)*. Berlin, Germany: CEUR-WS Vol. 2535..
- 2019 • Panasiuk, Oleksandra, Omar Holzknicht, Umutcan Şimşek, Elias Kärle, and Dieter Fensel. “Verification and Validation of Semantic Annotations”. In: *International Andrei Ershov Memorial Conference on Perspectives of System Informatics*. Springer, Cham, pp. 223–231..
- 2019 • Şimşek, Umutcan, Elias Kärle, and Dieter Fensel. “RocketRML-A NodeJS implementation of a use-case specific RML mapper”. In: *Proceedings of 1st Knowledge Graph Building Workshop co-located with 16th Extended Semantic Web Conference (ESWC), Portoroz, Slovenia*. CEUR-WS Vol. 2489..

2018 Kärle, Elias, Umutcan Şimşek, Oleksandra Panasiuk, and Dieter Fensel. "Building an Ecosystem for the Tyrolean Tourism Knowledge Graph". In: *Current Trends in Web Engineering. ICWE 2018 International Workshops, MATWEP, EnWot, KD-WEB, WEOD, TourismKG, Cáceres, Spain, June 5, 2018, Revised Selected Papers*. The 1st International Workshop on Knowledge Graphs on Travel and Tourism co-located with the 18th International Conference on Web Engineering (ICWE 2018). Lecture Notes in Computer Science 11153. Springer..

2018 Simsek, Umutcan and Dieter Fensel. "Intent Generation for Goal-Oriented Dialogue Systems based on Schema.org Annotations." In: 1st International Workshop on Chatbots co-located with ICWSM 2018. (Stanford, CA). Vol. abs/1807.01292..

2018 Şimşek, Umutcan, Elias Kärle, and Dieter Fensel. "Machine Readable Web APIs with Schema.org Action Annotations". In: *Procedia Computer Science*. Vol. 137. Proceedings of the 14th International Conference on Semantic Systems 10th – 13th of September 2018 Vienna, Austria, pp. 255–261..

2017 Akbar, Zaenal, Elias Kärle, Oleksandra Panasiuk, Umutcan Şimşek, Ioan Toma, and Dieter Fensel. "Complete Semantics to Empower Touristic Service Providers". In: *OnTheMove Federated Conferences & Workshops - ODBASE*, pp. 353–370..

2017 Fotopoulou, Eleni, Anastasios Zafeiropoulos, Fernando Terroso-Saenz, Aurora González-Vidal, Antonio Fernando Skarmeta Gomez, Umutcan Simsek, and Anna Fensel. "Data Aggregation, Fusion and Recommendations for Strengthening Citizens Energy-aware Behavioural Profiles". In: *2017 Global Internet of Things Summit (GloTS) (GloTS'17)*. Geneva, Switzerland..

2017 Kärle, Elias, Umutcan Simsek, Zaenal Akbar, Martin Hepp, and Dieter Fensel. "Extending the Schema.org Vocabulary for More Expressive Accommodation Annotations". In: *Information and Communication Technologies in Tourism 2017: Proceedings of the International Conference in Rome, Italy, January 24-26, 2017*. Ed. by Roland Schegg and Brigitte Stangl. Cham: Springer International Publishing, pp. 31–41..

2017 Şimşek, Umutcan, Elias Kärle, Omar Holzknecht, and Dieter Fensel. "Domain Specific Semantic Validation of Schema.org Annotations". In: *A.P. Ershov Informatics Conference (the PSI Conference Series, 11th edition)*. Moscow, Russia: Springer..

2016

Şimşek, Umutcan, Anna Fensel, Anastasios Zafeiropoulos, Eleni Fotopoulou, Paris Liapis, Thanassis Bouras, Fernando Terroso Saenz, and Antonio F. Skarmeta Gómez. "A Semantic Approach Towards Implementing Energy Efficient Lifestyles Through Behavioural Change". In: *Proceedings of the 12th International Conference on Semantic Systems. SEMANTiCS 2016*. Leipzig, Germany: ACM, pp. 173–176..

2013

Simsek, Umutcan and Riza Cenk Erdur. "Bağlı Veri Entegrasyonu İçin Bir Masaüstü Uygulama Mimarisinin Medikal Alanda Geliştirilmesi (A Desktop Architecture for Integration of Medical Linked Data)." In: *UYMS (National Software Engineering Symposium)*. Ed. by Ahmet Egesoy, Cenk Erdur, and N. Yasemin Topaloglu. Vol. 1072. CEUR Workshop Proceedings. CEUR-WS.org..

Technical Reports and Deliverables

2019

Şimşek, Umutcan, Kevin Angele, Elias Kärle, Oleksandra Panasiuk, and Dieter Fensel. *A formal approach for customization of schema. org based on SHACL*. <https://arxiv.org/pdf/1906.06492..>