Umutcan Simsek, MSc.

Curriculum Vitae

Innsbruck
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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
2015 **MSc in Computer Science**, *Ege University*, Izmir, Turkey.

2013
2015 **MSc in Computer Science**, *Technische Hochschule Mittelhessen University of Applied Sciences*, Giessen, Germany.

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 **Lead Software Developer**, *Aura Informatics*, Izmir, Turkey.
2015 Took part various software projects. After September 2014, remote software maintenance and coordination of other projects from Germany

2010 **Part-time IT Team Coordinator**, *ARGEFAR*, Izmir, Turkey.
2013 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 **Omar Holzknecht**, *University of Innsbruck*, Innsbruck, Austria.
2019 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*, Subrewiever.

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   **GIoTS**, *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 Builidings*, 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 Pippan, Andrea Sartori, Umutcan Simsek, Micheal Thaler, and Alexander Wahler.** *Der Beherbergungsbetrieb und seine Webpräsenz*. **Vienna: Bundesministerium für Wissenschaft, Forschung und Wirtschaft.**.

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 Holzknecht, 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 (GIoTS) (GIoTS'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..