CURRICULUM VITAE

Dr. Andrea SALFINGER, MSc. BSc.

PERSONAL DETAILS

Email: andrea.salfinger@uniud.it

Date of Birth: 1985-10-28

Citizenship: Austrian

ORCID: 0000-0003-4160-3871

EDUCATION

08/2012 – 12/2016: **Doctorate Degree (Dr. techn. / Ph.D.)** ***in Technical Sciences***, *with distinction*
Johannes Kepler University Linz (JKU), Austria.

PhD Defense Date: 21/12/2016
Thesis Title: Staying aware in an evolving world: evolution support for situation awareness in control centers.
Examiners:
- Prof. Wieland Schwinger, Johannes Kepler University Linz, Austria
- Prof. Mieczyslaw M. Kokar, Northeastern University, Boston, MA, USA

11/2008 – 08/2012: **Master's Degree (Dipl.-Ing. / MSc.)** ***in Computer Science***
Johannes Kepler University Linz, Austria
Thesis Title: An R package for the visualization of the results of projection methods with applications in bioinformatics.
Examiner:
- Prof. Sepp Hochreiter, Institute of Bioinformatics, Johannes Kepler University Linz, Austria.

11/2008 – 08/2012: ***— Master's Program in Bioinformatics***
Johannes Kepler University Linz, Austria
87/120 ECTS obtained *(all modules completed except for Project and Master's thesis due to start of PhD studies)*

09/2004 – 11/2008: **Bachelor's Degree (Bakk.techn. / BSc.)** ***in Computer Science***
Johannes Kepler University Linz, Austria
Thesis Title: Multidimensional scaling and tag clouds: new approaches for browsing very large music collections.
Examiner:
- Dr. Markus Schedl, Dept. of Computational Perception, Johannes Kepler University Linz, Austria.

LINGUISTIC COMPETENCIES

German (native)

English (CEFR[1] Level C2, self-assessment)

French (CEFR Level B2 [2])

Italian (CEFR Level A1, self-assessment)

[1] Common European Framework of Reference for Languages (CEFR)
[2] Language course of this CEFR level successfully completed at Johannes Kepler University Linz, Austria

POSITIONS / PROFESSIONAL EXPERIENCE

	Time Span	Position	Employment (Full Time / Part-time)	Months
Post-doctorate	07/2023–06/2025	**Erwin Schrödinger Fellow / Postdoctoral Researcher** University of Udine, Italy **self-funded by awarded grant:** Austrian Science Fund (FWF) career development program: Erwin Schrödinger project "Situational Context Representations" (SITCON) Role: **Principal Investigator (PI)**	100%	24 (18)
	06/2022–04/2023	**Data Officer / Scientific Officer** Integrated Data Unit (iDATA), European Food Safety Authority (EFSA), Parma, Italy Role: *Data stewardship chemical monitoring data collection, maintenance of food classification and description system FoodEx2.*	100%	11
	10/2018–01/2022	**Hertha Firnberg Fellow / Postdoctoral Researcher** Institute for Telecooperation, Johannes Kepler University Linz, Austria **self-funded by awarded grant:** Austrian Science Fund (FWF) career development program: Hertha Firnberg project "Inductive Situation Evolution Modeling" (inSiTUEVO) Role: **Principal Investigator (PI)**	100%	40
	10/2017–09/2018	Educational Leave / Sabbatical *Formal competency acquisition/training in machine learning* at Johannes Kepler University Linz, Austria		12
	03/2017–09/2017	**Postdoctoral Researcher** Institute for Telecooperation Johannes Kepler University Linz, Austria	100%	7
pre-doc	03/2015–02/2017	**Research Project Associate** Institute for Telecooperation, Johannes Kepler University Linz, Austria	100%	23
	03/2013–02/2015	**Research Project Associate** Institute for Telecooperation, Johannes Kepler University Linz, Austria	75%	23
	03/2012–02/2013	**Project Assistant** Institute of Bioinformatics, Johannes Kepler University Linz, Austria		12
	10/2011–02/2012	**Research Assistant** Institute for Telecooperation, Johannes Kepler University Linz, Austria	50%	4.5

NET RESEARCH EXPERIENCE: (0.5*4.5+0.75*35+23) [pre-doc] + 7+40+18 [post-doc]
= 51.5 [months full-time equivalent pre-doc] + 65 [months full-time post-doc]
= <u>4 years 3.5 months</u> [pre-doc] + <u>5 years 5 months</u> [net research experience post-doc]

Representing and Tracking Evolving Situations

Since her PhD studies, Dr. Andrea Salfinger has focused on the scientific problem of how to formalize and represent *situations*, i.e., sets of interrelated objects whose behavior is jointly influenced by the underlying state of affairs. After obtaining broad formal training by pursuing both Master's degrees "Computer Science" and "Bioinformatics" at Johannes Kepler University Linz, Austria, she joined the Institute for Telecooperation in 2011 due to the opportunity of a PhD research position within the FFG FIT-IT project "Collaborative Situation Awareness in Road Traffic Control" (CSI) opening up. She was one of two PhD students working on this project from 2011 to 2014, on the objective of developing intelligent systems to support human control center operators' situation awareness by computational situation assessment, in collaboration with the company teams GmbH, a subsidiary of the Austrian company frequentis (a world-leading provider of air traffic control software and software solutions for related control center operations). Provided with real-world traffic event data and situation records from the Austrian motorway operator ASFINAG (nation-wide coverage), she developed a deep interest in the problem of *how to model and automatically detect situations and track their evolution over time*. Studying knowledge-based and symbolic AI techniques, she developed a rule-based situation assessment system and dedicated situation tracking algorithm, with the aim to alert the control center operators' of critical event constellations characterized by spatio-temporal relations (such as traffic jams in foggy areas which require the setting of adequate warning messages on the Variable Message Signs installed on up-stream motorway sections to alert approaching motorists), in order to prevent a further criticality escalation of the situation (e.g., a rear-end collision occurring at the end of the traffic jam).

Soft Fusion: Crowd-sensed Situation Awareness from Social Media

In 2013, she additionally became the technical lead of the FFG Bridge project "Crowd-sourced Situation Awareness for Crisis Management" (CrowdSA), another cooperative project with the company teams GmbH now targeting the domain of crisis management, on which she was working from 2013 to 2016. This project provided the opportunity to expand her research expertise to *soft fusion*: The goal of CrowdSA was to design an Information Fusion (IF) system for enhancing crisis managers' situation awareness by also incorporating relevant observations extracted from social media text messages, in particular focusing the platform Twitter. Thus, in this project Dr. Salfinger acquired hands-on experience on Natural Language Processing (NLP) and social media analysis.

Inductive Situation Evolution Modeling and Situational Context

Based on the practical insights gained from her experiences with the applied-research projects CSI and CrowdSA, upon concluding her PhD, Dr. Andrea Salfinger saw a need for more foundational research on situation evolution modeling and tracking. Her project proposal on "Inductive Situation Evolution Modeling" (inSiTUEVO), seeking to complement her previous work now with the *inductive learning of situation evolution models* from empirical data with *machine learning* approaches, won a Hertha Firnberg fellowship from the Austrian Science Fund (FWF), Austria's prime funding agency for foundational research. This enabled her to start developing an independent research agenda, leading to a stronger orientation towards the scientific communities of Information Fusion (IF) and AI. Specifically, she developed a profound interest in exploring the intersection and interweaving of symbolic and sub-symbolic AI, experimenting with devising *symbolic representations of situations* as textually encoded event sequences, which elegantly transforms situation prediction into a classical sequence prediction problem, allowing to leverage the extensive scientific toolkit of *sequence prediction approaches from NLP* (ranging from Markov Chains to modern Deep Learning-based sequence prediction like language models), which represents one of her primary research interests. Her follow-up basic research project "Situational Context Representations" (SITCON) takes these ideas further, exploring the problem of *how detected situations can adequately inform the processing of an IF system's input* data (conceivable as a JDL L4 feedback loop) as dynamically changing context. This is particularly relevant for situated agent's reasoning as well as correctly interpreting real-time communication like social media, in which the situation context is often implicitly shared by the correspondents and thus not explicitly manifested in the message content itself (which thus renders the automated Natural Language Understanding of such context-omitted messages challenging), thereby drawing from and bundling the experiences acquired across all of Dr. Salfinger's prior research project involvements (CSI, CrowdSA, inSiTUEVO), seeking to *leverage the devised situation representations as situational context conditioning the NLP/IF pipeline*.

total acquired funding volume: **> € 402K**

2022

- Austrian Science Fund (FWF)

  Erwin Schrödinger grant

  "Situational Context Representations" (SITCON)

  07/2023 – 06/2026

  funding volume **€ 172.415**

  approval rate **36.4%** [3]

2017

- Austrian Science Fund (FWF)

  Hertha Firnberg grant

  "Inductive Situation Evolution Modeling"[4] T961-N31

  01/10/2018 – 31/01/2022

  funding volume **€ 230.010**

  approval rate **22%**[5]

[3] https://www.fwf.ac.at/fileadmin/Website/publications/Foerderungsstatistiken/Kuratoriumssitzungen/89_Kuratoriumssitzung_Juni-2022.pdf
[4] https://pf.fwf.ac.at/en/research-in-practice/project-finder/42385, https://app.dimensions.ai/details/grant/grant.7579984
[5] Statistis of decisions issued at the 66th FWF Board Meeting, 27-29 November 2017: https://www.fwf.ac.at/fileadmin/files/Dokumente/Ueber_den_FWF/Foerderungsstatistiken/Kuratoriumssitzungen/66_Kuratoriumssitzung_November-2017.pdf

HONORS, AWARDS AND SCHOLARSHIPS

- **European Commission Horizon Europe**

  Marie Skłodowska-Curie Actions call HORIZON-MSCA-2021- PF-01-01

  — MSCA Postdoctoral Fellowships **Seal of Excellence** for the project proposal

  SITCON: "Situational Context Representations for Learning and Reasoning (101066377)

  (recommended for funding but not funded due to budgetary constraints)

- **Nominee for the Hedy Lamarr Prize of the City of Vienna**

  - 2021
  - 2020
  - 2019
  - 2018

- **Best Paper Award** for the paper:

  Andrea Salfinger, Werner Retschitzegger, Wieland Schwinger, and Birgit Pröll, "crowdSA - Towards Adaptive and Situation-Driven Crowd-Sensing for Disaster Situation Awareness". *2015 IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)*, pages 14-20, Orlando, FL, USA. IEEE, https://doi.org/10.1109/COGSIMA.2015.7107969

- **Merit scholarship for excellence in academic achievement**

  by Johannes Kepler University Linz, Austria

  for the academic year 2005-2006

SELECTED RESEARCH PROJECTS

- Austrian Science Fund (FWF) Erwin Schrödinger project

  "Situational Context Representations" (SITCON)

  01/07/2023 – 30/06/2026

  Role: **Postdoctoral Researcher / Principal Investigator**

- Austrian Science Fund (FWF) Hertha Firnberg project

  "Inductive Situation Evolution Modeling" (inSiTUEVO)

  01/10/2018 – 31/01/2022

  Role: **Postdoctoral Researcher / Principal Investigator**

- Austrian Research Promotion Agency (FFG)

  Bridge project

  "Crowd-sourced Situation Awareness for Crisis Management" (CrowdSA)

  01/09/2013 – 30/06/2016

  Role: **PhD Researcher, Technical Lead**

- Austrian Research Promotion Agency (FFG)

  FIT-IT Semantic Systems project

  "Collaborative Situation Awareness in Road Traffic Control" (CSI)

  01/10/2011 – 30/09/2014

  Role: **PhD Researcher**

SCIENTIFIC COMMUNITY SERVICE

- **Chair** of the IEEE Systems, Man and Cybernetics Society's Technical Committee on Cognitive Situation Management [since 10/2023]

- **Co-Chair** of the IEEE Systems, Man and Cybernetics Society's Technical Committee on Cognitive Situation Management [10/2019–09/2023]

- **Steering Committee Member** of the **Conference on Cognitive Situation Management (CogSIMA)** [since 12/2023]

- **Conference Organizing Committee Member:**

  - *27th International Conference on Information Fusion* (FUSION), Venice, Italy, 2024: **Publicity Chair**

  - *IEEE Conference on Cognitive and Computational Aspects of Situation Management* (CogSIMA):
    - 2025, Duisburg, Germany: **Vice Chair**
    - 2024, Montréal, Canada: **Tutorial Chair**
    - 2022, Salerno, Italy: **International Relations Chair**
    - 2021, Tallinn, Estonia: **International Relations Chair**
    - 2020, Victoria, BC, Canada /Virtual: **Publicity Chair**
    - 2019, Las Vegas, NV, USA: **Vice Chair**
    - 2018, Boston, MA, USA: **Publication Chair**

- **Conference (Technical) Program Committee member / Reviewer:**

    - *International Conference on Information Fusion* (FUSION): 2019 – 2024
    - *Conference on Empirical Methods in Natural Language Processing* (EMNLP): 2021
    - *Conference on Technologies and Applications of Artificial Intelligence* (TAAI): 2016 – 2021
    - *IEEE Conference on Cognitive and Computational Aspects of Situation Management* (CogSIMA): 2016 – 2024
    - *Hawai'i International Conference on System Sciences* (HICSS): 2020 – 2022

- **Special Session Organization:**

"*Computational Models of Cognition and Situated Behavior in Cyber-Physical-Human Systems*"[6]
at the IEEE Systems, Man and Cybernetics Conference (SMC 2019), Bari, Italy, October 2019

- **Journal Reviews:**

    - Elsevier Information Fusion
    - IEEE Transactions on Human-Machine Systems
    - IEEE Transactions on Vehicular Technology
    - IEEE Internet Computing Spotlight
    - Evolutionary Intelligence, Springer Nature

[6] https://sites.google.com/view/cogsima-smc19

SELECTED OUTREACH ACTIVITIES

- **Mentoring**:

  participation as role model for females in ICT in the online *Speed Mentoring for high school students* organized by the Technical University of Vienna (TU Wien), October 2020,

  in the context of project ADA [SpeedMentoring – Informatik hat genauso viel mit Computern zu tun wie die Astronomie mit Teleskopen. (ada.wien)]

- **newspaper article** on the Austrian Science Fund (FWF) Hertha Firnberg project

  "Inductive Situation Evolution Modeling" (inSiTUEVO)

  in the Austrian newspaper "Die Presse" (national reach), Aug. 2020

  https://www.diepresse.com/5849787/smarte-maschinen-menschlicher-machen

- **research prototype** exhibited at the **Study Information Fair** SIM

  at Johannes Kepler University Linz Austria,

  as a showcase of computer science research

  - 2012
  - 2013

- **research prototype** presented at **industry partner's exhibition booth**

  at the 19th World Congress on Intelligent Transport Systems (ITS), Vienna, Austria, Oct. 2012,

  as a showcase of the FIT-IT Semantic Systems project

  "Collaborative Situation Awareness in Road Traffic Control" (CSI)

ACADEMIC PUBLICATIONS

Open Access to the subsequently mentioned publications (for publications where self-archiving was permitted by the publisher's license): https://www.researchgate.net/profile/Andrea-Salfinger/research

Google Scholar: https://scholar.google.com/citations?user=5QMRboEAAAAJ&hl=en

— non-peer reviewed —

Book Chapters

1. **Salfinger, A.**, Retschitzegger, W., Schwinger, W., and Pröll, B. (2016a). Towards a Crowd-Sensing Enhanced Situation Awareness System for Crisis Management. In Rogova, G. L. and Scott, P., editors, Fusion Methodologies in Crisis Management, pages 177-211. Springer International Publishing, https://link.springer.com/chapter/10.1007/978-3-319-22527-2_9

Technical Reports

1. EFSA (European Food Safety Authority), **Salfinger, A.**, Gibin, D., Niforou, K., Ioannidou, S. (2023). FoodEx2 Maintenance 2022. EFSA supporting publication 2023:EN-7900. 21 pp. https://doi.org/10.2903/sp.efsa.2023.EN-7900

— peer-reviewed —

Conference Proceedings

1. Rogova, G. L., Lebiere, C., Gundersen, O. E., **Salfinger, A**., and Baclawski, K., editors (2018). 2018 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA). IEEE, https://ieeexplore.ieee.org/xpl/conhome/8412842/proceeding

Journal Articles

1. Baumgartner, N., Mitsch, S., Müller, A., Retschitzegger, W., **Salfinger, A.**, and Schwinger, W. (2014). A Tour of BeAware! - A Situation Awareness Framework for Control Centers. Information Fusion, 20:155-173, Elsevier, https://doi.org/10.1016/j.inffus.2014.01.008

Conference Publications

1. Incitti, F., **Salfinger, A.**, Snidaro, L., and Challapalli, S. (2024a): "Leveraging LLMs for Knowledge Engineering from Technical Manuals: A Case Study in the Medical Prosthesis Manufacturing Domain," 27th International Conference on Information Fusion (FUSION), Venice, Italy, 2024, pp. 1-8, https://doi.org/10.23919/FUSION59988.2024.10706469

2. **Salfinger, A.**, and Snidaro, L. (2024b): Probing the Consistency of Situational Information Extraction with Large Language Models: A Case Study on Crisis Computing. In 2024 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA). Montreal, QC, Canada, 2024, IEEE, pp. 91-98, https://doi.org/10.1109/CogSIMA61085.2024.10553903

3. **Salfinger, A.** and Snidaro, L. (2020): Towards Neural Situation Evolution Modeling: Learning a Distributed Representation for Predicting Complex Event Sequences. 23rd International Conference on Information Fusion (FUSION). ISIF, July 6-9, 2020, IEEE, https://doi.org/10.23919/FUSION45008.2020.9190165

4. **Salfinger, A.** (2020). Reinforcement Learning Meets Cognitive Situation Management: A Review of Recent Learning Approaches from the Cognitive Situation Management Perspective. *2020* IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA). Virtual Conference, 2020, IEEE, https://doi.org/10.1109/CogSIMA49017.2020.9216026

5. **Salfinger, A.** (2019a). Framing Situation Prediction as a Sequence Prediction Problem: A Situation Evolution Model Based on Continuous-Time Markov Chains. In 22nd Intl. Conference on Information Fusion (FUSION), Ottawa, Canada. IEEE, https://ieeexplore.ieee.org/document/9011234

6. **Salfinger, A.** (2019b). Situation Mining: Event Pattern Mining for Situation Model Induction. In 2019 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA), Las Vegas, USA. IEEE, https://doi.org/10.1109/COGSIMA.2019.8724300

7. Girtelschmid, S., **Salfinger, A.**, Pröll, B., Retschitzegger, W., and Schwinger, W. (2016a). Near Real-time Detection of Crisis Situations. In 2016 39th International Convention on Information and Communication Technology, Electronics and Microelectronics, MIPRO, pages 247-252, Opatija, Croatia. IEEE, https://doi.org/10.1109/MIPRO.2016.7522146

8. **Salfinger, A.**, Schwinger, W., Retschitzegger, W., and Pröll, B. (2016b). Mining the Disaster Hotspots - Situation-Adaptive Crowd Knowledge Extraction for Crisis Management. In 2016 IEEE Intl. Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support, CogSIMA 2016, San Diego, CA, USA. IEEE, https://doi.org/10.1109/COGSIMA.2016.7497812

9. **Salfinger, A.**, Retschitzegger, W., Schwinger, W., and Pröll, B. (2015b). crowdSA - Towards Adaptive and Situation-Driven Crowd-Sensing for Disaster Situation Awareness. In 2015 IEEE Intl. Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support,

CogSIMA 2015, pages 14-20, Orlando, FL, USA. IEEE, https://doi.org/10.1109/COGSIMA.2015.7107969,

10. **Salfinger, A.**, Girtelschmid, S., Pröll, B., Retschitzegger, W., and Schwinger, W. (2015a). Crowd-Sensing Meets Situation Awareness - A Research Roadmap for Crisis Management. In 2015 48th Hawaii International Conference on System Sciences, HICSS-48, pages 153-162, Kauai, HI, USA. IEEE, https://doi.org/10.1109/HICSS.2015.28

11. **Salfinger, A.**, Neidhart, D., Retschitzegger, W., Schwinger, W., and Mitsch, S. (2014a). SEM² Suite - Towards a Tool Suite for Supporting Knowledge Management in Situation Awareness Systems. In Joshi, J., Bertino, E., Thuraisingham, B., and Liu, L., editors, Proceedings of the 15th IEEE International Conference on Information Reuse and Integration, IEEE IRI 2014, pages 351-360, San Francisco, CA, USA. IEEE, https://doi.org/10.1109/IRI.2014.7051911

12. **Salfinger, A.**, Retschitzegger, W., and Schwinger, W. (2014b). Staying Aware in an Evolving World - Specifying and Tracking Evolving Situations. In 2014 IEEE International Inter-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support, CogSIMA 2014, pages 195-201, San Antonio, USA. IEEE, https://doi.org/10.1109/CogSIMA.2014.6816562

13. **Salfinger, A.**, Retschitzegger, W., and Schwinger, W. (2013). Maintaining Situation Awareness Over Time - A Survey on the Evolution Support of Situation Awareness Systems. In 2013 Conference on Technologies and Applications of Artificial Intelligence, TAAI 2013, pages 274-281, Taipei, Taiwan. IEEE, https://doi.org/10.1109/TAAI.2013.62

14. Baumgartner, N., Mitsch, S., Müller, A., Retschitzegger, W., **Salfinger, A.**, and Schwinger, W. (2012). The Situation Radar: Visualizing Collaborative Situation Awareness in Traffic Control Systems. In Proceedings of the 19th World Congress on Intelligent Transport Systems (ITS), Vienna, Austria

Workshop Publications

1. Pollak, M., **Salfinger, A.**, Hummel, K.A. (2022): Teaching Drones on the Fly: Can Emotional Feedback Serve as Learning Signal for Training Artificial Agents? Accepted at the AAAI-22 Workshop on Interactive Machine Learning (IML@AAAI'22), https://arxiv.org/abs/2202.09634

2. **Salfinger, A.**: Deep Learning for Cognitive Load Monitoring: A Comparative Evaluation. *In Adjunct Proceedings of the 2020 ACM International Joint Conference on Pervasive and Ubiquitous Computing and Proceedings of the 2020 ACM International Symposium on Wearable Computers (UbiComp/ISWC '20 Adjunct)*, September 12–16, 2020, Virtual Event, Mexico. ACM, New York, NY, USA, 6 pages. https://doi.org/10.1145/3410530.3414433

3. **Salfinger, A.**, Salfinger, C., Pröll, B., Retschitzegger, W., and Schwinger, W. (2016b). Pinpointing the Eye of the Hurricane - Creating a Gold-Standard Corpus for Situative Geo-Coding of Crisis Tweets

Based on Linked Open Data. In: Proceedings of the LREC 2016 Workshop "LDL 2016 - 5th Workshop on Linked Data in Linguistics: Managing, Building and Using Linked Language Resources", LDL 2016, pages 27-35, Portorož, Slovenia. http://www.lrec-conf.org/proceedings/lrec2016/workshops/LREC2016Workshop-LDL2016_Proceedings.pdf

4. Mitsch, S., Müller, A., Retschitzegger, W., **Salfinger, A.**, and Schwinger, W. (2013). A Survey on Clustering Techniques for Situation Awareness. In: 15th Asia-Pacific Web Conference, APWeb 2013, Sydney, Australia, April 4-6, 2013. Proceedings, volume 7808 of Lecture Notes in Computer Science, pages 815-826. Springer Berlin Heidelberg, https://www.springerprofessional.de/en/a-survey-on-clustering-techniques-for-situation-awareness/4082788

TALKS AND PRESENTATIONS

1. Oral Paper Presentation " Probing the Consistency of Situational Information Extraction with Large Language Models: A Case Study on Crisis Computing" at the *2024 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA),* Montréal, Quebec, Canada, May 9, 2024

2. Invited Lightning Talk "*Challenges, Shared Tasks & Gyms: Lessons Learned from Other Communities?*" at the Workshop on CogSIMA Challenge Problems, Virtual Workshop in conjunction with CogSIMA 2021, May 21, 2021

3. Oral Paper Presentation "*Deep Learning for Cognitive Load Monitoring: A Comparative Evaluation*" at the *5th International Workshop on Smart & Ambient Notification and Attention Management* (UbiTtention 2020), Virtual Workshop in conjunction with UbiComp/ISWC, Sept. 12, 2020

4. Oral Paper Presentation "*Reinforcement Learning Meets Cognitive Situation Management: A Review of Recent Learning Approaches from the Cognitive Situation Management Perspective*" at the *2020 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA),* Virtual Conference, Aug. 25, 2020

5. Oral Paper Presentation "Towards Neural Situation Evolution Modeling: Learning a Distributed Representation for Predicting Complex Event Sequences" at the *23rd International Conference on Information Fusion (FUSION),* Virtual Conference, July 9, 2020

6. Oral Paper Presentation "Framing Situation Prediction as a Sequence Prediction Problem: A Situation Evolution Model Based on Continuous-Time Markov Chains" at the *22nd International Conference on Information Fusion (FUSION)*, Ottawa, Canada, July 3, 2019

7. Oral Paper Presentation "Situation Mining: Event Pattern Mining for Situation Model Induction" at the *2019 IEEE Conference on Cognitive and Computational Aspects of Situation Management (CogSIMA)*, Las Vegas, NV, USA, April 9, 2019

8. Oral Paper Presentation "Pinpointing the Eye of the Hurricane - Creating A Gold-Standard Corpus for Situative Geo-Coding of Crisis Tweets Based on Linked Open Data" at the *LDL 2016 – 5th Workshop on Linked Data in Linguistics: Managing, Building and Using Linked Language Resources*, Portorož, Slovenia, May 24, 2016

9. Oral Paper Presentation "Mining the Disaster Hotspots - Situation-Adaptive Crowd Knowledge Extraction for Crisis Management" at the *2016 IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)*, San Diego, CA, USA, March 24, 2016

10. Oral Paper Presentation "crowdSA - Towards Adaptive and Situation-Driven Crowd-Sensing for Disaster Situation Awareness" at the *2015 IEEE International Multi-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)*, Orlando, FL, USA, March 10, 2015

11. Oral Paper Presentation "Crowd-Sensing Meets Situation Awareness - A Research Roadmap for Crisis Management" at the *48th Hawaii International Conference on System Sciences (HICSS 2015)*, Kauai, HI, USA, Jan. 6, 2015

12. Oral Paper Presentation "SEM² Suite - Towards a Tool Suite for Supporting Knowledge Management in Situation Awareness Systems" at the *IEEE 15th International Conference on Information Reuse and Integration (IEEE IRI 2014)*, San Francisco, CA, USA, Aug. 14, 2014

13. Oral Paper Presentation "Staying Aware in an Evolving World - Specifying and Tracking Evolving Situations" at the *2014 IEEE International Inter-Disciplinary Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA)* , San Antonio, TX, USA, March 5, 2014

14. Oral Paper Presentation "Maintaining Situation Awareness Over Time - A Survey on the Evolution Support of Situation Awareness Systems" at the *2013 Conference on Technologies and Applications of Artificial Intelligence (TAAI 2013)*, Taipei, "Taiwan, Dec. 6, 2013

15. Oral Paper Presentation "A Survey on Clustering Techniques for Situation Awareness" at the *International Workshop on Management of Spatial Temporal Data (15th Asia-Pacific Web Conference)*, Sydney, Australia, April 6, 2013

TEACHING EXPERIENCE

Lecturer at the School of Engineering (Wels Campus), University of Applied Sciences Upper Austria

- summer term 2017, lecture "User-Generated Content Processing"
- summer term 2016, lectures
    - "Introduction to Database Systems"
    - "User-Generated Content Processing"

Co-supervision of Bachelor theses at the Dept. of Cooperative Information Systems, Institute for Telecooperation, Johannes Kepler University Linz

1. Sketching the Situational Picture - Implementation of a PreparednessRadar for First Responders (Markus Weißenbek, Berthold Roiser), 2017
2. A Flexible Data Ingestion and Information Fusion Framework for SAW Applications (Ovidiu-Cristian Iliesiu)
3. Data Quality Analysis for Crowd-Sensed Crisis Situation Awareness (Alexander Porod)
4. Mobile Applications for Crowd-Sensing Traffic Information – Transportation mode and free parking place detection *(*Harald Weiner)
5. Mobile Applications for Crowd-Sensing Traffic Information – Segmentation based map matching and traffic flow analysis *(*Markus Niederkofler)
6. Ontology Engineering for an Extensible SAW Framework Architecture *(*Martin Weber, Christoph Zimprich)
7. A Multi-Touch Interface for Collaborative Situation Awareness (Philipp Kapfer), 2012

Co-supervision Project in Intelligent Information Systems (summer term 2017) at the Dept. of Cooperative Information Systems, Institute for Telecooperation, Johannes Kepler University Linz

1. Traffic Situation Analysis (Berthold Roiser), Project in Intelligent Information Systems, 2017
2. SEMEVAL 2017 TASK 8 - Rumor classification (David Graf), Project in Intelligent Information Systems, 2017

Co-supervision of Seminar Theses for the Seminar in Intelligent Information Systems (winter terms 2013/14 - 2016/17, summer term 2016 and 2017) at the Dept. of Cooperative Information Systems, Institute for Telecooperation, Johannes Kepler University Linz

1. Automated Rumor Detection in Social Media (David Graf), Seminar in Intelligent Information Systems, 2017
2. Ontology-Learning and the Pertinence of Social Media (Alexander Moser), Seminar in Intelligent Information Systems, 2017
3. Effects and Detection of Social Botnets (Christian Huber), Seminar in Intelligent Information Systems, 2017
4. Aerial Robotics and Image Analysis for Disaster Assessment (Franz Strasser), Seminar in Intelligent Information Systems, 2017
5. Influencer Detection (Franziska Schaur), Seminar in Intelligent Information Systems, 2017
6. Contextual Advertising (Michael Krieger), Seminar in Intelligent Information Systems, 2017
7. Deep Learning for Text Understanding (Mario Kahlhofer), Seminar in Intelligent Information Systems, 2017
8. Natural Language Understanding (Patrick Bonten), Seminar in Intelligent Information Systems, 2017
9. Geo-Information Extraction (Thomas Mandorfer), Seminar in Intelligent Information Systems, 2016
10. Topic Detection & Tracking in Social Media (Simon Woisetschläger), Seminar in Intelligent Information Systems, 2016
11. Predictive Modeling with Social Media Data (Raphael Mosaner), Seminar in Intelligent Information Systems, 2016
12. Crowd-sourcing Social Media Analysis (Philipp Schwarz), Seminar in Intelligent Information Systems, 2016
13. Who is Tweeting? User Account Classification on Twitter (Sinan Arnaut), Seminar Thesis, 2016
14. Generating Natural Language Descriptions for Images (Stefana Fratean), Seminar Thesis, 2016
15. Text Mining Techniques for Social Media Data (Mhd Mousa Hamad), Seminar Thesis, 2016

16. Complex Event Processing for SAW applications (Ilko Kovacic), Seminar Thesis, 2014
17. Integrating spatio-temporal Data Mining algorithms into SAW applications and frameworks (Melanie Donabauer, Carmen Lorenzoni), Seminar Thesis, 2014
18. A Mobile Application for Crowd Traffic Information Creation (Markus Niederkofler, Harald Weiner), Seminar Thesis, 2013

Supervision of 12 high school student internships in the course of four Austrian Research Promotion Agency (FFG) TALENTE projects (grant no. 850859, 852071, 850855 and 850594) at the Dept. of Cooperative Information Systems, Institute for Telecooperation, and the Institute of Application-Oriented Knowledge Processsing, Johannes Kepler University Linz, in July and August 2015

Supervision of 3 high school student internships in the course of Austrian Research Promotion Agency (FFG) TALENTE projects (grant no. 845561 and 845562) at the Dept. of Cooperative Information Systems, Institute for Telecooperation, Johannes Kepler University Linz, summer 2014

Co-supervision of 3 high school student internships in the course of Austrian Research Promotion Agency (FFG) TALENTE project 836870, at the Institute of Bioinformatics, Johannes Kepler University Linz, summer 2012

Teaching Assistant at the Institute of Formal Verification, Johannes Kepler University Linz:

- "Formal Methods" (summer term 2007)
- "Model Checking" (winter term 2008/09)

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