

Matthias Grabmair - CV [5/2018]

OFFICE ADDRESS

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MAIN WORK

I am a Systems Scientist at Carnegie Mellon University's Language Technologies Institute working on solving problems in intelligent legal information management and intelligent natural language dialogue systems while also teaching at the institute. My work is best described as (Legal) Knowledge Engineering or (Legal) Data Science. It draws from artificial intelligence & law, knowledge representation & reasoning, natural language processing, applied machine learning, information retrieval as well as computational models of argument.

ACADEMIC POSITIONS

Systems Scientist	Carnegie Mellon University Language Technologies Institute Pittsburgh, PA	since 07/2017
Postdoctoral Associate	Carnegie Mellon University Language Technologies Institute Pittsburgh, PA	2016-2017

EDUCATION

PhD, Intelligent Systems	University of Pittsburgh Dietrich School of Arts & Sciences Intelligent Systems Program Pittsburgh, PA	2007-2016
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Advisor: Prof. Kevin D. Ashley; thesis title: *Modeling Purposive Legal Argumentation and Case Outcome Prediction using Argument Schemes in the Value Judgment Formalism*

LLM, Master of Laws <i>Magna cum laude</i>	University of Pittsburgh School of Law Pittsburgh, PA	2004-2005
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Dipl-Jur (Univ) <i>First State Exam in Law</i>	University of Augsburg School of Law Augsburg, Germany	2001-2007
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Elective: European & Public International Law, certificate in Anglo-American Law

VISITING POSITIONS

Visiting Professor	University of Heidelberg School of Law Heidelberg, Germany	December 2017
Visiting Researcher	Carnegie Mellon University Language Technologies Institute Pittsburgh, PA	2015-2016
Visiting Professor	University of Pittsburgh School of Law Pittsburgh, PA	Fall Term 2010

FELLOWSHIPS AND AWARDS

Andrew Mellon Predoctoral Fellowship, 2012-2013, University of Pittsburgh
Donald H. Berman Best Student Paper Award, ICAIL Conference 2011
Dietrich School of Arts & Sciences Fellowship, 2007-2009, University of Pittsburgh
Summer Fellowship, Google Summer of Code Program 2008
Undergraduate Fellowship, 2004-2007, Friedrich-Ebert-Foundation, Germany
Study Abroad Scholarship, 2004, German Academic Exchange Service (DAAD)
Tuition Scholarship, 2004-2005, Center for International Studies, University of Pittsburgh

INDUSTRY & GOVERNMENT COLLABORATION

- Application of Natural Language Processing and Question Answering Technologies for Airplane Maintenance Documents, sponsored by Boeing, since Fall 2016
- Dialog-based and graphical user interfaces for subject matter experts working on data science problems, DARPA Program on Data Driven Discovery of Models (D3M), Spring 2017 to Spring 2018.
- Research on the development of a context-aware personal assistant, sponsored by Bosch Research Pittsburgh, 2016-2017
- Co-authored report on “Consumer Scoring: A Feasibility Study for an Algorithm Law” for the German Expert Council for Consumer Affairs, an advisory body of the Federal Ministry of Justice and Consumer Protection, Summer 2018

TEACHING & EDUCATION ACTIVITY

- Member of program leadership and admissions committee, Master of Computational Data Science (MCDS), School of Computer Science, Carnegie Mellon University, since Fall 2016
- Upcoming course: *Applied Legal Data Analytics and AI*, to be co-taught with Kevin Ashley, University of Pittsburgh School of Law, Spring 2019
- (Co-) taught *11-631 Data Science Seminar* (Fall Term), *11-634 Capstone Planning Seminar* (Spring Term), *11-632 Capstone Project Course* (Fall Term), Master’s Program in Computational Data Science (MCDS), Analytics Major, School of Computer Science, Carnegie Mellon University, since Fall 2015
- AI&Law introduction course, University of Heidelberg School of Law, December 2017
- Half-Day conference tutorials on AI&Law co-presented with Kevin Ashley at JURIX 2011 (Vienna, Austria), ICAIL 2013 (Rome, Italy), ICAIL 2015 (San Diego, USA), ICAIL 2017 (London, UK)
- Course on *Public International Law Advocacy*, University of Pittsburgh School of Law, Fall 2010
- Coach of the Jessup Moot Court Team, University of Pittsburgh School of Law, 2010, 2011

RESEARCH COMMUNITY SERVICE

Organizing Committee memberships:

- ASAIL 2015, 2017 Workshops on Automated Semantic Analysis of Information in Legal Texts, held in conjunction with ICAIL 2015, 2017

Program committee memberships:

- IJCAI 2017 Special Track on AI&Autonomy
- International Conference on AI&Law (ICAIL), 2015, 2017
- JURIX Conference on Legal Knowledge and Information Systems 2016, 2017
- RuleML 2016

- AI for Justice Workshop at ECAI 2016
- ARG-MINING, Workshop on Argumentation Mining, 2015, 2017
- LIT 2014 (6th Legal Informatics and Legal Information Technology Workshop)
- Workshop on “Semantic Processing of Legal Texts (SPLeT-2014)”, Special Track on Legal Resources and Access to Law
- RuleML 2014 Special Track on *Rules and Human Language Technology*
- RuleML 2013 Special Track on *Translating between Human Language and Formal Rules: Business, Law, and Government*

Scientific Journal Activity:

- In Progress: Guest Editor, *Artificial Intelligence & Law* Journal, Special Issue on “Natural Language Processing for Legal Texts”, Summer 2018
- Member of the editorial board of the *Artificial Intelligence and Law* journal, Springer
- Reviewer for Journal on *Argument & Computation*, Special Issue on Applications of Argumentation
- Reviewer for *International Journal on Artificial Intelligence and Education*

PUBLICATIONS

S. Wadhwa, V. Embar, M. Grabmair, E. Nyberg, Towards Inference-Oriented Reading Comprehension: ParallelQA, Accepted at Workshop on New Forms of Generalization in Deep Learning and Natural Language Processing, NAACL 2018, arXiv:1805.03830, 2018.

A. Ravichander, T. Manzini, M. Grabmair, G. Neubig, J. Francis and E. Nyberg, How Would You Say It? Eliciting Lexically Diverse Dialogue for Supervised Semantic Parsing, Proceedings SIGDIAL 2017, pp 374-383, ACL, 2017.

M. Grabmair, Predicting Trade Secret Case Outcomes using Argument Schemes and Learned Quantitative Value Effect Tradeoffs, ICAIL 2017 Proceedings, ACM, 2017.

A. Bansal, Z. Bu, B. Mishra, S. Wang, K. D. Ashley and M. Grabmair, Document Ranking with Citation Information and Oversampling Sentence Classification in the LUIMA Framework, Proceedings of the 2016 International Conference on Legal Knowledge and Information Systems (JURIX 2016), pp 33-42, IOS Press, 2016.

M. Grabmair, Modeling Purposive Legal Argumentation and Case Outcome Prediction using Argument Schemes in the Value Judgment Formalism. Doctoral Dissertation, University of Pittsburgh, 2016.

M. Grabmair, K. D. Ashley, R. Chen, P. Sureshkumar, C. Wang, E. Nyberg and V. R. Walker, Introducing LUIMA: An Experiment in Legal Conceptual Retrieval of Vaccine Injury Decisions using a UIMA Type System and Tools, ICAIL 2015 Proceedings, 69-78, ACM, 2015.

J. Savelka, M. Grabmair, K.D. Ashley, Mining Information from Statutory Texts in Multi-jurisdictional Settings. In Rinke Hoekstra. Legal Knowledge and Information Systems (JURIX 2014). Amsterdam: IOS Press, pp. 133-142, 2014.

P. M. Sweeney, E. F. Bjerke, M. A. Potter, H. Gl, C. R. Keane, K. D. Ashley, M. Grabmair, R. Hwa, Network Analysis of Manually-Encoded State Laws and Prospects for Automation. In Winkels, R.; Lettieri, N.; Faro, S. (Eds.). Network Analysis in Law. Collana: Diritto Scienza Tecnologia/Law Science Technology Temi, 3, Napoli: Edizioni Scientifiche Italiane, 2014.

M. Grabmair & K.D. Ashley, Using Event Progression to Enhance Purposive Argumentation in the Value Judgment Formalism, ICAIL 2013 Proceedings, 73-82, ACM, 2013.

M. Grabmair & K.D. Ashley, A Survey of Uncertainties and their Consequences in Probabilistic Legal Argumentation, in: Bayesian Argumentation - The Practical Side of Probability (Frank Zenker ed.), S. 61-85, Springer, 2012.

M. Grabmair, K.D. Ashley, R. Hwa and P.M. Sweeney, Toward Extracting Information from Public Health Statutes using Text Classification and Machine Learning, Jurix 2011: The 24th Annual Conference, pp. 73-82 (Katie M. Atkinson ed.) IOS Press, 2011.

M. Grabmair & K.D. Ashley, Facilitating Case Comparison Using Value Judgments and Intermediate Legal Concepts, ICAIL 2011 Proceedings, 161-170, ACM, 2011. [Donald H. Berman Best Student Paper Award]

M. Grabmair & K.D. Ashley, Argumentation with Value Judgments - An Example of Hypothetical Reasoning, Jurix 2010: The 23rd Annual Conference, 67-76 (R.G.F. Winkels ed.), IOS Press, 2010.

M. Grabmair, T.F. Gordon, and D. Walton, Probabilistic Semantics for the Carneades Argument Model Using Bayesian Networks, Proceedings of the Third International Conference on Computational Models of Argument (COMMA), 255-266, IOS Press, 2010.

M. Grabmair & K.D. Ashley, Using Critical Questions to Disambiguate and Formalize Statutory Provisions, ICAIL 2009 Proceedings, 240-241, ACM SIGART, 2009.

M. Grabmair & K.D. Ashley, Towards Modeling Systematic Interpretation of Codified Law, Jurix 2005: The Eighteenth Annual Conference, 107-108 (M.-F. Moens, P. Spyns ed.), IOS Press, 2005.

OTHER TALKS

Search, Read, Argue and Predict - An Introduction to Artificial Intelligence and Law, Language Technologies Institute Colloquium (Fall 2017), School of Computer Science, Carnegie Mellon University, Pittsburgh, PA, USA.

Panelist, ICAIL 2013 Workshop on Argumentation in Artificial Intelligence and Law (chaired by Trevor Bench-Capon), Rome, Italy.

How argument schemes and structures can be used for effective international law moot court preparation, University of Pittsburgh School of Law, Pittsburgh, PA, USA, October 2012.

A Formalisation of the Right to Life (R2L) and the Responsibility to Protect (R2P), Introductory remarks for roundtable discussion, JURIX 2011, Vienna, Austria.

Erste Schritte zur Automatischen Erkennung von Agenten-Interaktionen in Gesetzestexten durch Textklassifikation und Maschinelles Lernen, Fachtagung Rechtsinformatik (FTRI) 2011, Vienna, Austria.

Assessing Argument Moves in the Carneades Argument Model Using Bayesian Networks, Workshop on Bayesian Argumentation 2010, Lund University, Sweden.

Isomorphie, Logikprogrammierung, Methodenlehre, Internationales Rechtsinformatik Symposium (IRIS) 2008, Salzburg, Austria.

Grundüberlegungen zur Modellierung der Systematischen Auslegung durch Norminteraktionsprädikate, Internationales Rechtsinformatik Symposium (IRIS) 2006, Vienna, Austria.