

Sebastian Gehrman

Curriculum Vitae

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Education

- 2015–present **Ph.D. Candidate, Computer Science**, *Harvard Paul A. Johnson School of Engineering and Applied Sciences*, Cambridge, MA
- Development of controllable and interpretable text generation models
 - Design of visually interactive debugging tools for neural models
 - Support teamwork through intelligent interfaces
- 2018 **M.S. Computer Science**, *Harvard Paul A. Johnson School of Engineering and Applied Sciences*, Cambridge, MA, GPA: 3.9
- 2015 **B.Sc. Computer Science and Business Administration**, *Nordakademie University of Applied Sciences*, Elmshorn, Germany
- 2013 **Visiting Undergraduate Student**, *Harvard University*, Cambridge, MA

Work Experience

- Fall 2018 **Graduate Research Intern - Artificial Intelligence**, *IBM Research*, Cambridge, MA
Development of improved visual debugging tools for neural sequence models. Supervised by Hendrik Strobelt.
- Summer 2018 **Document Systems and NLP Research Intern**, *Adobe*, San Jose, CA
Developed a low-resource section title generation approach based on combining neural extractive summarization and Semi-Markov conditional random fields. Investigated the effect of generated titles on reading comprehension in a human-subject study. Supervised by Franck Deroncourt.
- Summer 2016 **Collaborator**, *Fondazione Bruno Kessler*, Trento, Italy
Working on developing an automatic facilitator to support teenagers who come from two parts of conflict develop shared narratives. Part of the i3 research group supervised by Massimo Zancanaro and Oliviero Stock.
- 2015–2017 **Co-Founder**, *Digital Natives*, Frankfurt, Germany
Technical lead of media agency developing web sites, improving SEO and handling social media for small and medium sized businesses. Portfolio of projects can be found at webseitenprofi24.de.
- 2014–2015 **Web developer**, Hamburg, Germany
Team lead for development of web sites for start-ups, communicating with clients, develop back-end, and management of team.
- 2011–2015 **Dual Student**, *Eppendorf AG*, Hamburg, Germany
Full time position in cooperation with Nordakademie University of Applied Sciences
- Project management for the development of a company-wide CRM system
 - Leading training sessions for service technicians in four countries
 - Design of algorithms for prioritizing service tickets and deploying service technicians

Publications

- 2018 **Seq2Seq-Vis: A Visual Debugging Tool for Sequence-to-Sequence Models**, *Strobelt H*, Gehrmann S*, Behrisch M, Perer A, Pfister HP, Rush A*
VAST 2018, **Honorable Mention**
- 2018 **Bottom-Up Abstractive Summarization**, *Gehrmann S, Deng Y, Rush A*
EMNLP 2018
- 2018 **End-to-End Content and Plan Selection for Natural Language Generation**, *Gehrmann S, Dai F, Elder H, Rush A*
INLG 2018
- 2018 **Towards Controllable Generation of Diverse Natural Language**, *Elder H, Gehrmann S, O'Connor A, Liu Q*
INLG 2018 - E2E NLG challenge special session
- 2018 **Comparing Rule-Based and Deep Learning Models for Patient Phenotyping**, *Gehrmann S, Dernoncourt F, Li Y, Carlson E, Wu J, Welt J, Foote J, Moseley E, Grant D, Tyler P, Celi L*
PloS One 13 (2)
- 2017 **Behind the Scenes: A Medical Natural Language Processing Project**, *Wu, J, Dernoncourt F, Gehrmann S, Tyler P, Moseley E, Carlson E, Grant D, Li Y, Welt J, Celi L*
International Journal of Medical Informatics
- 2016 **Visual Analysis of Hidden State Dynamics in Recurrent Neural Networks**, *Strobelt H, Gehrmann S, Huber B, Pfister H, Rush A*
IEEE Transactions on Visualization and Computer Graphics 2017
- 2015 **Deploying AI Methods to Support Collaborative Writing: a Preliminary Investigation**, *Gehrmann S, Urke L, Amir O, Grosz B*
CHI 2015, Extended Abstracts on Human Factors in Computing Systems

Workshops

- 2018 **Debugging Sequence-to-Sequence with Seq2Seq-Vis**, *Strobelt H*, Gehrmann S*, Behrisch M, Perer A, Pfister HP, Rush A*
Demo+Poster at BlackboxNLP 2018
- 2018 **End-to-End Content and Plan Selection for Natural Language Generation**, *Gehrmann S, Dai F, Elder H, Rush A*
Talk at OpenNMT Workshop 2018

In the Making

- 2018 **Generating Section Titles to Improve Text Comprehension**, *Gehrmann S, Layne S, Dernoncourt F*
In submission to AAAI 2019
- 2018 **Evaluating an Automated Mediator for Joint Narratives in a Conflict Situation**, *Gehrmann S, et al.*
In submission to Behaviour & Information Technology

Teaching, Talks & Seminars

- Fall 2017 **CS182: Artificial Intelligence**, *Teaching Fellow*
Introduction of ideas and techniques underlying the design of intelligent computer systems
- Fall 2016 **CS108: Intelligent Systems: Design and Ethical Challenges**, *Teaching Fellow*
Broad introduction to AI, situated in the context of AI's current and potential future uses and the design and ethical challenges they raise
- 2017 **Comparing Rule-Based and Deep Learning Models for Patient Phenotyping**, *Massachusetts Institute of Technology*, Cambridge, MA, Invited Talk at the Laboratory for Computational Physiology
- 2016 **Data Analysis with Python**, *Nordakademie University of Applied Science*, Elmshorn, Germany, Two-day seminar for undergraduate students
- 2015 **Data Analysis with Python**, *Nordakademie University of Applied Science*, Elmshorn, Germany, Two-day seminar for undergraduate students
- 2015 **Deploying AI Methods to Support Collaborative Writing: a Preliminary Investigation**, *Fondazione Bruno Kessler*, Trento, Italy, invited talk
- 2014 **Sind Computer schlauer als wir?**, *Nordakademie University of Applied Science*, Elmshorn, Germany, Introduction to topics in AI and big data
- 2013 & 2014 **Introduction to Finance**, *Nordakademie University of Applied Science*, Elmshorn, Germany, Organized a lecture series about basics of investing with over 100 attendees

Various other projects

- 2016–present **Computer Science Graduate Council**, *Harvard University*
President, Leading the communication of students with department administrators and planning of biweekly social events for over 100 students and faculty
- 2012–2015 **Naktienclub**, *Nordakademie University of Applied Sciences*
President, educating students about personal finance and investing through lecture series, managing director of the club's own investment fund of over \$10,000

Awards and Scholarships

- 2017 Best METEOR, ROUGE, and CIDEr scores at the E2E NLG challenge out of 60 submitted systems
- 2016/17 Karina A. Chen Graduate Student Research Fellowship in Engineering and Applied Sciences, Harvard University
- 2013/14 Award for outstanding service to the community of Nordakademie
- 2006–2010 First place in state championship in chess (first board in team of eight)
- 2008 Runner up in Mathematics Olympiad on state level
- 2006, 2007, 2009 Third place in Mathematics Olympiad on state level