

Sebastian Gehrmann

✉ gehrmann@seas.harvard.edu
🌐 sebastiangehrmann.com
🌐 [sebastiangehrmann](https://www.linkedin.com/in/sebastiangehrmann)
🐦 [SebGehr](https://twitter.com/SebGehr)

Education

- 2019 **Ph.D. Computer Science**,
Harvard Paul A. Johnson School of Engineering and Applied Sciences.
Advisors: Barbara Grosz, Alexander (Sasha) Rush.
Thesis: Human-AI Collaboration for Natural Language Generation with Interpretable Neural Networks.
- 2018 **S.M. Computer Science**,
Harvard Paul A. Johnson School of Engineering and Applied Sciences, GPA: 3.9.
- 2015 **B.Sc. Computer Science and Business Administration**,
Nordakademie University of Applied Sciences, Germany, ECTS Grade A.
- 2013 **Visiting Undergraduate Student**, *Harvard University.*

Work Experience

- 2020-present **Research Scientist**, *Google AI Language, New York City, NY.*
As part of the language team, I am improving text generation systems.
- Summer 2018, 2019 **Document Systems and NLP Research Intern**, *Adobe, San Jose, CA.*
Supervised by Franck Dernoncourt, I studied how generated text can help humans understand and share information in long documents.
- Fall 2018 **Graduate Research Intern**, *IBM Research, Cambridge, MA.*
In collaboration with Hendrik Strobelt, I worked on interactive inference for text generation models and analysis tools for controllable generation of protein sequences.
- Summer 2016 **Collaborator**, *Fondazione Bruno Kessler, Trento, Italy.*
Supervised by Massimo Zancanaro and Oliviero Stock, I developed an automatic facilitator to support teenagers with conflicting backgrounds to create shared narratives. We evaluated this facilitator in a human-subject study between Arabic and Israeli native speakers.
- 2014–2017 **Co-Founder**, *Digital Natives, Frankfurt, Germany.*
I was the technical leader of a small media agency that developed web sites, improved SEO and handled social media for small and medium sized businesses. Notable clients include Girardet Verlag and No-Stop Consulting.
- 2011–2015 **Dual Student**, *Eppendorf AG, Hamburg, Germany.*
To finance my undergraduate studies, I held a full time position in cooperation with Nordakademie. My responsibilities included the project management for a new customer relationship management system. Among other tasks I created and led training sessions for service technicians across Europe and designed algorithms for prioritizing service tickets and deploying technicians.

Conference and Journal Publications

- 2019 **Memory-Augmented Recurrent Neural Networks Can Learn Generalized Dyck Languages**, *M Süzgün, S Gehrmann, Y Belinkov, S Shieber*.
arXiv preprint 1911.03329
- 2019 **ExBERT: A Visual Analysis Tool to Explore Learned Representations in Transformers Models**, *B Hoover, H Strobelt, S Gehrmann*.
arXiv preprint 1910.05276, NeurIPS 2019 Demo
- 2019 **Encoder-Agnostic Adaptation for Conditional Language Generation**, *Z Ziegler, L Melas-Kyriazi, S Gehrmann, A Rush*.
arXiv preprint 1908.06938
- 2019 **Generating Abstractive Summaries with Finetuned Language Models**, *S Gehrmann*, Z Ziegler*, A Rush*.
INLG 2019 Generation Challenge Track
- 2019 **Margin Call: an Accessible Web-based Text Viewer with Generated Paragraph Summaries in the Margin**, *N Rizvi, S Gehrmann, F Derroncourt*.
INLG Demos 2019
- 2019 **Visual Interaction with Deep Learning Models through Collaborative Semantic Inference**, *S Gehrmann*, H Strobelt*, R Krüger, HP Pfister, A Rush*.
VAST 2019
- 2019 **Evaluating an Automated Mediator for Joint Narratives in a Conflict Situation**, *M Zancanaro, O Stock, G Schiavo, A Cappelletti, S Gehrmann, D Canetti, O Shaked, S Fachter, R Yifat, R Mimran, T Weiss*.
Behaviour & Information Technology
- 2019 **GLTR: Statistical Detection of Fake Text**, *S Gehrmann, H Strobelt, A Rush*.
ACL Demos 2019, **Nominated for Best Demo Paper**
- 2019 **Improving Human Text Comprehension through Semi-Markov CRF-based Neural Section Title Generation**, *S Gehrmann, S Layne, F Derroncourt*.
NAACL 2019
- 2018 **Seq2Seq-Vis: A Visual Debugging Tool for Sequence-to-Sequence Models**, *H Strobelt*, S Gehrmann*, M Behrisch, A Perer, HP Pfister, A Rush*.
VAST 2018, **Honorable Mention**
- 2018 **Bottom-Up Abstractive Summarization**, *S Gehrmann, Y Deng, A Rush*.
EMNLP 2018
- 2018 **End-to-End Content and Plan Selection for Natural Language Generation**, *S Gehrmann, F Dai, H Elder, A Rush*.
INLG 2018
- 2018 **Towards Controllable Generation of Diverse Natural Language**, *H Elder, S Gehrmann, A O'Connor, Q Liu*.
INLG 2018 - E2E NLG challenge special session

- 2018 **Comparing Rule-Based and Deep Learning Models for Patient Phenotyping**,
*S Gehrmann, F Dernoncourt, Y Li, E Carlson, J Wu, J Welt, J Foote, E Moseley,
 D Grant, P Tyler, L Celi.*
 PloS One 13 (2)
- 2017 **Behind the Scenes: A Medical Natural Language Processing Project**, *J Wu,
 F Dernoncourt, S Gehrmann, P Tyler, E Moseley, E Carlson, D Grant, Y Li, J
 Welt, L Celi.*
 International Journal of Medical Informatics
- 2016 **Visual Analysis of Hidden State Dynamics in Recurrent Neural Networks**,
H Strobel, S Gehrmann, HP Pfister, A Rush.
 IEEE Transactions on Visualization and Computer Graphics 2017
- 2015 **Deploying AI Methods to Support Collaborative Writing: a Preliminary
 Investigation**, *S Gehrmann, L Urke, O Amir, B Grosz.*
 CHI 2015, Extended Abstracts on Human Factors in Computing Systems

Workshop Publications

- 2019 **Interactive White-Box Models through Collaborative Semantic Inference**,
S Gehrmann, H Strobel*, R Krüger, HP Pfister, A Rush.*
 ACL 2019 Workshop on BlackboxNLP
- 2019 **LSTMs can perform Dynamic Counting**, *M Süzgün, S Gehrmann, Y Belinkov,
 S Shieber.*
 ACL 2019 Workshop on Deep Learning and Formal Languages
- 2019 **Interactive Visual Exploration of Latent Space (IVELS) for peptide auto-
 encoder model selection**, *T Sercu, S Gehrmann, H Strobel, P Das, I Padhi, C
 Dos Santos, K Wadhawan, V Chenthamarakshan.*
 ICLR 2019 Workshop on Deep Generative Models for Highly Structured Data
- 2018 **Bottom-Up Abstractive Summarization**, *S Gehrmann, Y Deng, A Rush.*
 Amazon Graduate Student Symposium 2019
- 2018 **Debugging Sequence-to-Sequence with Seq2Seq-Vis**, *H Strobel*, S
 Gehrmann*, M Behrisch, A Perer, HP Pfister, A Rush.*
 EMNLP 2018 Workshop on BlackboxNLP
- 2018 **End-to-End Content and Plan Selection for Natural Language Generation**,
S Gehrmann, F Dai, H Elder, A Rush.
 OpenNMT Workshop 2018

Leadership

- 2019 **International Natural Language Generation Conference, Tokyo, Japan.**
I was on the organizing committee of the INLG Conference and acted as publicity chair.
- 2016–2019 **Computer Science Graduate Council, Harvard University.**
As president, I lead the communication of students with department administrators and planned biweekly social events for over 100 students and faculty
- 2012–2015 **Naktienclub, Nordakademie University of Applied Sciences.**
As president, I educated students about personal finance and investing through lecture series and acted as managing director of the club's own investment fund of over \$10,000.

Teaching

- Winter 2020 **Structure and Interpretation of Deep Networks, Co-Organizer, MIT.**
- Fall 2017 **CS182: Artificial Intelligence, Teaching Fellow, Harvard SEAS.**
- Fall 2016 **CS108: Intelligent Systems: Design and Ethical Challenges, Teaching Fellow, Harvard SEAS.**
- Fall 2018 **HST.953: Collaborative Data Science in Medicine, Mentor, MIT, Cambridge, MA.**
- 2015 & 2016 **Data Analysis with Python, Instructor, Nordakademie University of Applied Science, Elmshorn, Germany.**
- 2013 & 2014 **Introduction to Finance, Instructor, Organizer, Nordakademie University of Applied Science, Elmshorn, Germany.**

Awards and Scholarships

- 2019 Selected as a member of the Siebel Scholar class of 2020
- 2019 One of ten recipients of the Adobe Research Fellowship (selected from over 1,000 applicants)
- 2019 2 x Adobe Research Gift for Harvard NLP (\$5,000 each)
- 2019 Best automated scores at the TL;DR challenge out of 12 submitted systems
- 2018 Harvard Open-Access Publishing Equity award (\$1,500)
- 2017 Best automated 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

Open Source

- OpenNMT-py Top 5 contributor of one of the largest sequence-to-sequence modeling toolkits
- Bottom-Up Main author of models for state-of-the-art summarization modeling
- GLTR Backend author for the tool to detect generated text from language models
- LSTMVis Backend author for visual analysis of hidden states in recurrent neural networks
- Seq2Seq-Vis Backend author for interactive debugging of sequence-to-sequence models

Reviewing and Program Committees

- Area Chair ACL 2020 (summarization)
- Conferences ACL 2018, 2019, CoNLL 2019, EMNLP 2019 (outstanding reviewer), IEEE VIS 2019, NAACL 2019, INLG 2018, IUI 2018, 2019
- Workshops VisXAI 2018, 2019, NeuralGen 2019, New Frontiers in Summarization 2019, HAI-GEN 2020
- Journals IJMI, JMIR, JMLR, PLoS One