

NAACL HLT 2018

**The 2018 Conference of the
North American Chapter of the
Association for Computational Linguistics:
Human Language Technologies**

**Proceedings of the Conference
Volume 2 (Short Papers)**

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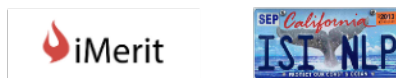
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Message from the General Chair

Welcome to New Orleans and to NAACL HLT 2018 – the biggest NAACL to date. Natural Language Processing and Computational Linguistics is constantly growing and changing with a constant flow of new methods and topics. Every year also sees an even more exciting and diverse research community, with a steadily increasing number researchers, companies both large and small, and a vibrant community of practitioners and students who are excited at the prospect of taking on the newest challenges of the discipline. This year's NAACL HLT conference reflects what an exciting time this is for our field, and highlights the vibrancy and vitality of our community.

I feel extremely lucky to be able to work with a fantastic program committee, especially the two extremely dedicated, creative and resourceful program chairs: Amanda Stent and Heng Ji. Their innovations include a new review form, intended to elicit higher quality reviews, the opportunity for authors to review the reviewers, the Test-of-Time awards, and a program where poster and demo sessions run consistently in parallel to the oral sessions, in order to allow the conference to reflect the ever increasing diversity of research topics and the corresponding volume of accepted papers. I am especially excited about the new Test-of-Time papers award session, and hope to see this new innovation become a regular part of ACL conferences.

We have named the Test-of-Time award in memory of Aravind Joshi, who left us this year, after having a huge lifetime impact on our community. We will always remember him for his gentle conversational style, sharp focus, interest in linguistic, computational and mathematical properties of language, and his lifetime commitment to mentoring women in NLP. I feel extremely lucky to have been one of his Ph.D. students.

This year we also introduced an industrial track, with the aim of featuring papers that focus on scalable, interpretable, reliable and customer facing methods for industrial applications of Natural Language Processing. The idea of having such a track was proposed by Yunyao Li who strongly advocated for it: this proposal was then discussed and approved by the NAACL board. After that, it was all go, with an incredible amount of work to promote and organize it by the industrial track chairs: Jennifer Chu-Carroll, Yunyao Li and Srinivas Bangalore.

The overall program looks amazing and reflects the cooperative way that everyone on the committee worked together. What a team! I am so grateful for getting to be a part of this community of people, and I really appreciate the enthusiasm and attention to detail reflected in their hard work: Amanda Stent and Heng Ji (program chairs); Jennifer Chu-Carroll, Yunyao Li and Srinivas Bangalore (industrial track chairs); Ying Lin (website chair); Marie Meteer and Jason Williams (workshop co-chairs); Mohit Bansal and Rebecca Passonneau (tutorial co-chairs); Yang Liu, Tim Paek, and Manasi Patwardhan (demo co-chairs); Chris Callison-Burch and Beth Hockey (Family-Friendly Program Co-Chairs) Stephanie Lukin and Meg Mitchell (publication co-chairs); Jonathan May (handbook chair); Silvio Ricardo Cordeiro, Shereen Oraby, Umashanthi Pavalanathan, and Kyeongmin Rim (student cochairs) along with Swapna Somasundaran and Sam Bowman (Faculty Advisors) for the student research workshop; Lena Reed (student volunteer coordinator); Kristy Hollingshead, Kristen Johnson, and Parisa Kordjamshidi (local sponsorships and exhibits cochairs); Yonatan Bisk and Wei Xu (publicity and social media chairs); David Yarowsky and Joel Tetreault (treasurers) and Alexis Palmer and Jason Baldrige (the NAACL international Sponsorship Team). Also thanks to Rich at SoftConf for his speedy response to questions and his willingness to help us innovate with our new review form. And thanks to Julia Hockenmaier and the whole NAACL Executive Board for always being willing to consult on any issue.

The program highlights three keynote speakers in the main track: Dilek Hakkani-Tür, Kevin Knight, and Charles Yang. We also have two keynote speakers in the industry track: Mari Ostendorf and Daniel Marcu. These talks promising to be interesting across a range of issues from language acquisition in

children to the commercial possibilities of conversational agents. The industry track will also feature two panels, one on careers in industry (as compared to academia) and the other on ethics in NLP. The program also includes six tutorials featuring topics of current interest and sources of innovation in the field. We have sixteen workshops plus the student research workshop: some of these workshops have become events in themselves with many of them repeated each year. We will also have plenary sessions for the outstanding paper awards and the new Test-Of-Time papers award session.

Any event of this scale can only happen with the the hard work of a wonderful group of people. I especially want to thank the NAACL board for being willing to consult on a range of different issues and Priscilla Rasmussen for taking care of all the millions of details that need to be looked after every single day to make sure the logistical aspects of the conference come together. I want to especially thank Priscilla for her hard work and creativity organizing our social event: we first will go to Mardi Gras World to see the world of wonders created each year for the Mardi Gras. From there we go to the river, to the dockside River City Plaza and River City Ballroom for New Orleans' famous cuisine and libations and dancing to live Zydeco, funk, soul and R&B.

ACL has been working for several years to increase diversity at our conferences and in our community. So, taking inspiration from ACL 2017, we aimed to make NAACL family friendly, by providing childcare at the conference, and encouraging people to bring their families to the social events and breakfasts. Diversity can also be a consequence of the support for students to attend the conference that we receive from the NSF, CRA-CCC and CRA-W: this subsidizes student travel to the student research workshop as well as their registration and ACL memberships. When combined with the support we are able to give to our student volunteers, we aim to make it possible for students from all over the world to come to the conference and be part of our community. We also decided, in consultation with the NAACL board, to provide subsidies to the Widening NLP workshop, which is only being held for the second time at this year's NAACL (last year called the Women in NLP workshop). These subsidies enable participation from students and young researchers from developing countries to attend the conference.

I am grateful to our sponsors for their generous contributions, which add so much to what we can do at the conference. Our Diamond sponsors are Bloomberg, Google, and Toutiao AI Lab (ByteDance). The Platinum sponsor is Amazon. The Gold Sponsors are Ebay, Grammarly, IBM Research, KPMG, Oracle, Poly AI, Tulane University, Capital One and Two Sigma. The Silver sponsors are Nuance and Facebook, and the Bronze sponsors are iMerit and USC/ISI.

Finally, there are many more people who through their hard work and dedication have contributed to make this conference a success: the area chairs, workshop organizers, tutorial presenters, student mentors, and reviewers. And of course you all, the attendees without whom there would be no conference: you are the life and spirit of the conference and the NAACL community. I hope you all have a fun and exciting time at NAACL HLT 2018!

NAACL HLT 2018 General Chair

Marilyn Walker, University of California Santa Cruz

Message from the Program Co-Chairs

We welcome you to New Orleans for the 16th Annual Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL HLT 2018)! We had three primary goals for NAACL HLT 2018: construct a great program; manage the integrity and quality of the publication process; and ensure broad participation.

Construct a great program: NAACL HLT 2018 does have a great program, thanks to all of you! We will have three exciting keynotes, from Charles Yang, Kevin Knight and Dilek Hakkani-Tür. 331 research track papers (205 long, 125 short), accepted following peer review, will be presented¹. Four of these papers have been identified as outstanding papers, and one will be named best paper. We will also feature a “Test of Time” session with retrospectives (from the authors) on three influential papers from ACL venues. We thank the committees who nominated and voted on these paper awards.

The main program at NAACL HLT 2018 also includes 16 TACL paper presentations, 20 demos, a student research workshop and an industry track. Keynotes from both the research and industry tracks are plenary. In a change from previous years of NAACL HLT, and motivated by EMNLP 2017, poster and oral presentation sessions will be held in parallel during the day. All posters are grouped thematically (including posters from the industry track and student research workshop and demos) and assigned to poster sessions so as to not be against oral presentation sessions with the same theme.

Manage the integrity and quality of the publication process: To manage load, we decided that each area chair should be responsible for no more than 30 submissions and that reviewers should be responsible for reviewing no more than 3 submissions. To help reviewers, we and the ACL program co-chairs constructed a more structured review form, with questions related to the new ACL guidelines on publication and reviewing, as well as to contribution types, experimental methods (thank you, Bonnie Webber!), software and handling of data.

We recruited an excellent group of 72 area chairs; we thank them for their leadership, and for nominating and voting on outstanding papers, outstanding reviewers and test of time papers. 1372 individuals reviewed papers for the conference (as program committee members, ad hoc reviewers or secondary reviewers); all but 49 reviewers had no more than 3 submissions to review overall, and the 49 reviewers who took on a heavier load did so voluntarily. We thank all our reviewers, especially the ad-hoc reviewers who provided last minute reviews and the outstanding reviewers identified by the area chairs.

Submissions were assigned to area chairs and reviewers using a combination of area chair expertise, Toronto Paper Matching System (TPMS) scores and reviewer bids. Both long and short paper submissions received 3 reviews each. Long paper authors had an opportunity to respond to reviews. Accept/reject suggestions were made by area chairs working in small groups of 2-3 and discussing with reviewers as necessary; final decisions were made by the program chairs. Where there was disagreement or discussion, one area chair wrote a short meta review that was shared with the authors.

This year, if the authors of a NAACL HLT 2018 submission and the author of a review for that submission both consented, then we will include the review in a review corpus to be released jointly with the program chairs of ACL, Iryna Gurevich and Yusuke Miyao. We also asked authors of accepted papers to upload the source code for their papers. Both of these corpora will be released in the coming months.

The health of our field as a science is dependent on a scalable peer review process, which in turn depends on (a) conscientious effort from a broad pool of expert reviewers, and (b) tools, processes and policies that can structure and facilitate reviewing. As a field we are at a breaking point: we are growing rapidly,

¹We received 1122 research track submissions (664 long, 458 short). 33 were rejected without review and 85 were withdrawn by the authors either before, during or after review. vi

with corresponding heavy load on experienced reviewers; and we lack good tools to manage the process. Peer review involves several tasks that we, as NLP researchers, ought to be uniquely qualified to address, including expertise sourcing, network analysis and text mining. We have written a proposal with other members of the ACL community about ways the ACL can improve our peer review infrastructure. We have also written a collection of “how to” documents that we will pass on to future conference organizers.

Ensure broad participation: To ensure broad participation, we recruited program committee members using a similar method to that used for NAACL HLT 2016: we invited anyone who had published repeatedly in ACL sponsored venues, who had a PhD or significant experience in the field spanning more than 5 years, and whose email address was up to date in START. We thank Dragomir Radev for giving us a list of names from the ACL anthology.

We also kept a blog where we discussed and attempted to “demystify” each stage of the publication process. This blog can be found at the conference website, <http://naacl2018.org>. We are very grateful to the researchers who wrote guest blog posts, including Justine Cassell, Barbara Plank, Preslav Nakov, Omer Levy, Gemma Boleda, Emily Bender, Nitin Madnani, David Chiang, Kevin Knight, Dan Bikel and Joakim Nivre.

On our blog, we reported on the diversity of our area chair, reviewer and author pools in terms of years of experience, affiliation type and geography, and gender. We will include these details in our report to the NAACL Executive Committee. We hope that future years’ chairs will make similar reports.

The excellence of the overall NAACL HLT 2018 program is thanks to all the chairs and organizers. We especially thank the following people: Margaret Mitchell and Stephanie Lukin, the publication chairs; Jonathan May, the handbook chair; Yonatan Bisk and Wei Xu, the publicity and social media chairs; Ying Lin, the tireless website chair; and Marilyn Walker, the NAACL HLT 2018 general chair. We thank the chairs of NAACL HLT 2016 and ACL 2017 for their informative blogs, and the program chairs of NAACL HLT 2016, Owen Rambow and Ani Nenkova, for their advice. We thank the program co-chairs of ACL 2018, Iryna Gurevych and Yusuke Miyao, who have been very collaborative on matters related to reviewing. We thank Shuly Winter, who helped fix a serious START bug. We thank Julia Hockenmaier and the NAACL Executive Committee for their support. We are grateful for the professional work of Rich Gerber and his colleagues at SoftConf (START), and of Priscilla Rasmussen from the ACL.

It has been an enormous privilege for us to see the scientific advances that will be presented at this conference. We would like to close with some advice for you, the conference attendees.

- The presenters have made valuable contributions to our science; their oral, poster and demo presentations are worth your time and attention.
- Talk to some people you haven’t previously met. They may be your future collaborators!
- You can follow the conference on social media; we have a conference app and website where we will post any updates to the program, and our twitter handle is @naaclhlt.
- This event is run by a professional organization with a code of conduct². If you observe or are the recipient of unprofessional behavior, you may contact any current member of the ACL or NAACL Executive Committees, the NAACL HLT general chair (Marilyn Walker), us (the program chairs), or Priscilla Rasmussen (acl@aclweb.org). We will hold your communications in strict confidence and consult you before taking any action.

We look forward to a wonderful conference!

NAACL HLT 2018 Program Co-Chairs

Heng Ji, RPI

Amanda Stent, Bloomberg

²https://www.aclweb.org/adminwiki/index.php?title=Anti-Harassment_Policy