

# Fei Liu | Résumé

Ph.D. Candidate (Natural Language Processing, Deep Learning)  
Research experience at leading industry labs (Facebook AI Research and NAVER LABS)  
Supervisors: Tim Baldwin, Trevor Cohn  
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Australian citizen, eligible for U.S. E-3 work visa

## Education

<b>The University of Melbourne</b> <i>Doctor of Philosophy</i> Natural Language Processing, Deep Learning	<b>Melbourne, Australia</b> Feb, 2015–Present
<b>The University of Melbourne</b> <i>Master of Software Systems Engineering, First Class Honours</i>	<b>Melbourne, Australia</b> July, 2012–July, 2013
<b>Beijing University of Technology</b> <i>Bachelor of Computer Science and Technology</i>	<b>Beijing, China</b> Sept, 2004–July, 2008

## Selected Publications

**Fei Liu**, Luke Zettlemoyer, and Jacob Eisenstein. The Referential Reader: A Recurrent Entity Network for Anaphora Resolution. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL 2019)*, pages 5918–5925, Florence, Italy, 2019.

Minghao Wu, **Fei Liu**, and Trevor Cohn. Evaluating the Utility of Hand-crafted Features in Sequence Labelling. In *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing (EMNLP 2018)*, pages 2850–2856, Brussels, Belgium, 2018.

**Fei Liu**, Trevor Cohn, and Timothy Baldwin. Narrative Modeling with Memory Chains and Semantic Supervision. In *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (ACL 2018)*, pages 278–284, Melbourne, Australia, 2018.

**Fei Liu**, Trevor Cohn, and Timothy Baldwin. Recurrent Entity Networks with Delayed Memory Update for Targeted Aspect-based Sentiment Analysis. In *Proceedings of the 2018 Conference of the North American Chapter of the Association for Computational Linguistics – Human Language Technologies (NAACL HLT 2018)*, pages 278–283, New Orleans, USA, 2018.

**Fei Liu**, Trevor Cohn, and Timothy Baldwin. Improving End-to-End Memory Networks with Unified Weight Tying. In *Proceedings of the 15th Annual Workshop of The Australasian Language Technology Association (ALTW 2017)*, pages 16–24, Brisbane, Australia, 2017. **Best Post Award**

**Fei Liu**, Timothy Baldwin, and Trevor Cohn. Capturing Long-range Contextual Dependencies with Memory-enhanced Conditional Random Fields. In *Proceedings of the 8th International Joint Conference on Natural Language Processing (IJCNLP 2017)*, pages 555–565, Taipei, Taiwan, 2017.

**Fei Liu** and Julien Perez. Gated End-to-End Memory Networks. In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2017)*,

also presented at *NIPS 2016 Let's Discuss: Learning Methods for Dialogue workshop*), pages 1–10, Valencia, Spain, 2017.

**Fei Liu**, Julien Perez, and Scott Nowson. A Language-independent and Compositional Model for Personality Trait Recognition from Short Texts. In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2017)*, pages 754–764, Valencia, Spain, 2017.

Julien Perez and **Fei Liu**. Dialog State Tracking, A Machine Reading Approach using Memory Network. In *Proceedings of the 15th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2017)*, pages 305–314, Valencia, Spain, 2017.

**Fei Liu**, Alistair Moffat, Timothy Baldwin, and Xiuzhen Zhang. Quit While Ahead: Evaluating Truncated Rankings. In *Proceedings of 39th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2016)*, pages 953–956, Pisa, Italy, 2016.

## Experience

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### Facebook AI Research

Seattle, USA

Research Intern

Sept, 2018–Jan, 2019

**Research Topic and Achievements:** Coreference resolution, memory-enhanced deep learning models, paper published at ACL 2019

### The University of Melbourne

Melbourne, Australia

Research Assistant (Casual)

May, 2017–Aug, 2017

**Research Duties:** Responsible for implementing a bi-directional LSTM-CRF model for sequential tagging tasks in low-resource languages for the DARPA-funded LORELEI project in collaboration with CMU.

### Xerox Research Centre Europe (now NAVER LABS Europe)

Grenoble, France

Research Intern

May, 2016–Oct, 2016

**Research Topic and Achievements:** Memory Networks, deep learning approach for personality trait recognition, 3 papers published at EACL 2017

### Royal Melbourne Institute of Technology

Melbourne, Australia

Research Assistant (Casual)

Sept, 2014–Feb, 2015

#### Detailed Achievements:

- Sept 2014 – Feb 2015 *Customized Search Engine for Industry Partner*  
Managed to increase the accuracy of the query boundary detection process by 10% by applying machine learning techniques. Significantly improved the performance of the search engine (F-score from less than 10 to 55 by boosting precision substantially and factoring in translation probabilities to detect paraphrases).

### The University of Melbourne

Melbourne, Australia

Research Assistant (Casual)

Sept, 2014–Dec, 2014

### Hitachi Government & Public Corporation System Engineering, Ltd.

Tokyo, Japan

Software Engineer (Full-Time)

Oct, 2008–June, 2012

- Participated (as a core developer) in the development of the *GOOD-DESIGN-AWARD*-winning and *KIDS-DESIGN-AWARD*-winning accessibility tool *ZoomSight* (No.1 in market share), a Japanese NLP web application for the vision impaired, capable of adding phonetic scripts to and reading the contents of HTML pages

## Awards and Additional Certificates

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### Best Short Paper Award

Tianjin, China

ACM SIGIR International Conference on the Theory of Information Retrieval

Sept, 2018

<b>Best Poster Award</b> <i>Australasian Language Technology Association</i>	<b>Brisbane, Australia</b> <i>Dec, 2017</i>
<b>ALTA 2017 Student Scholarship</b> <i>Australasian Language Technology Association</i>	<b>Brisbane, Australia</b> <i>Nov, 2017</i>
<b>Google PhD Travel Scholarship Award</b> <i>Google</i>	<b>Melbourne, Australia</b> <i>Oct, 2017</i>
<b>Best Paper Award, 5th Annual Doctoral Colloquium</b> <i>Sch. of Computing and Information Systems, The University of Melbourne</i>	<b>Melbourne, Australia</b> <i>July, 2017</i>
<b>Conference Travel Scholarship</b> <i>The University of Melbourne</i>	<b>Melbourne, Australia</b> <i>April, 2017</i>
<b>Winning Team of Electronic Trading Challenge Hackathon</b> <i>Jane Street Capital</i>	<b>Melbourne, Australia</b> <i>Mar, 2017</i>
<b>Best Intern Presentation Award</b> <i>Xerox Research Centre Europe</i>	<b>Grenoble, France</b> <i>Sept, 2016</i>
<b>SIGIR Travel Scholarship</b> <i>ACM SIGIR Conference on Research and Development in Information Retrieval</i>	<b>Pisa, Italy</b> <i>July, 2016</i>
<b>3rd Prize, Microsoft Data Science Student Challenge Hackathon</b> <i>Microsoft, The University of Melbourne</i>	<b>Melbourne, Australia</b> <i>May, 2016</i>
<b>Australian Postgraduate Awards (APA Scholarship)</b> <i>Department of Education, Australian Government</i>	<b>Melbourne, Australia</b> <i>Feb, 2015–May, 2019</i>
<b>IELTS</b> <i>General Training, Overall: 8.5/9.0</i> <i>Listening: 8.5/9.0, Reading: 9.0/9.0, Writing: 8.5/9.0, Speaking: 7.0/9.0</i>	<b>Melbourne, Australia</b> <i>Mar, 2013</i>

## Patents

Julien Perez, Scott Nowson, and **Fei Liu**. Author personality trait recognition from short texts with a deep compositional learning approach. US10049103B2 (granted).

Julien Perez, **Fei Liu**, and Scott Nowson. Gated end-to-end memory networks. US20180232152A1 (application).

## Languages

<u>Name</u>	<u>Proficiency</u>
Chinese	Native Proficiency
English	Full Professional Proficiency
Japanese	Full Professional Proficiency

## Misc

- Primary language: Python, Java
- Knowledge of: TensorFlow, Keras, PyTorch,  $\text{\LaTeX}$ , Linux
- Google Scholar: <https://bit.ly/2TxSU7e>
- GitHub: <https://github.com/liuflly>
- Reviewer for: EMNLP 2017, 2018, 2019; CoNLL 2018; NAACL 2019; ACL 2019