

# Christopher Jack Bryant

NLP Research Scientist

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## Research Interests

Grammatical Error Detection and Correction, Natural Language Processing, artificial data generation, automatic data annotation and evaluation, computer-aided language learning, codeswitching.

## Research Employment

**Principle Applied Research Scientist** 04/2022 - Present  
*Reverso, Paris, France (Remote)*

Topics: Grammatical Error Correction, artificial data generation, product development

**Research Associate** 01/2019 - Present  
*Institute for Automated Language Teaching and Assessment (ALTA)  
University of Cambridge, UK*

Supervisor: Prof. Paula Buttery and Prof. Ted Briscoe

Topics: Grammatical Error Detection and Correction, automatic annotation and evaluation, computer-aided language learning, codeswitching

**Research Consultant** 01/2021 - 04/2021  
*Self-Employed, UK*

Topics: Company sustainability report classification

**Research Assistant** 01/2014 - 08/2015  
*National University of Singapore, Singapore*

Supervisor: Prof. Hwee Tou Ng

Topics: Grammatical Error Correction, discourse parsing

**Intern - LISTA Project** 07/2012 - 09/2012  
*University of Edinburgh, UK*

*University of the Basque Country, Spain*

Supervisor: Prof. Martin Cooke and Dr. M<sup>a</sup> Luisa García Lecumberri

Topics: Accent perception, speech annotation

## Education

**Doctor of Philosophy in Computer Science** 09/2015 - 12/2018  
*University of Cambridge, UK*

Supervisor: Prof. Ted Briscoe

Thesis: Automatic Annotation of Error Types for Grammatical Error Correction

**MSc Speech and Language Processing** 09/2012 - 09/2013  
*University of Edinburgh, UK*

Supervisor: Prof. Bonnie Webber and Prof. Philipp Koehn

Thesis: An Investigation into More Informative Methods of Machine Translation Evaluation

**MA (Hons) Chinese and Linguistics – First Class** 09/2008 - 09/2012  
*University of Edinburgh, UK*

Dalian University of Technology, China

Supervisor: Dr. Robert Truswell

Thesis: The Syntactic Structure of Coverbs in Mandarin Chinese

## Awards, Grants and Scholarships

Cambridge Language Sciences Research Incubator Fund	2019, 2021
Churchill College Conference Grants	2016 - 2018
Automated Language Teaching and Assessment (ALTA) Studentship	2015 - 2018
Edinburgh Santander Masters Scholarship	2012 - 2013

## Internationally Reviewed Publications

- Christopher Davis, Christopher Bryant, Andrew Caines, Marek Rei and Paula Buttery. 2022. “Probing for targeted syntactic knowledge through grammatical error detection.” In *Proceedings of the 26th Conference on Computational Natural Language Learning*, Abu Dhabi, UAE / Online.
- Shiva Taslimipoor, Christopher Bryant and Zheng Yuan. 2022. “Improving Grammatical Error Correction for Multiword Expressions.” In *Proceedings of the 18th Workshop on Multiword Expressions @LREC2022*, Marseille, France / Online.
- Zheng Yuan, Shiva Taslimipoor, Christopher Davis and Christopher Bryant. 2021. “Multi-Class Grammatical Error Detection for Correction: A Tale of Two Systems.” In *Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing*, Punta Cana, Dominican Republic / Online.
- Li Nguyen, Christopher Bryant, Sana Kidwai and Theresa Biberauer. 2021. “Automatic Language Identification in Code-Switched Hindi-English Social Media Text.” In *Journal of Open Humanities Data*, Volume 7:7, pages 1-13.
- Zheng Yuan and Christopher Bryant. 2021. “Document-level grammatical error correction.” In *Proceedings of the Sixteenth Workshop on Innovative Use of NLP for Building Educational Applications*, pages 75–84, Kyiv, Ukraine / Online.
- Li Nguyen and Christopher Bryant. 2020. “CanVEC - the Canberra Vietnamese-English code-switching natural speech corpus.” In *Proceedings of The 12th Language Resources and Evaluation Conference*, pages 4121–4129, Marseille, France / Online.
- Felix Stahlberg, Christopher Bryant and Bill Byrne. 2019. “Neural grammatical error correction with finite state transducers.” In *Proceedings of the 2019 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies, Volume 1 (Long and Short Papers)*, pages 4033–4039, Minneapolis, Minnesota, USA.
- Christopher Bryant and Ted Briscoe. 2018. “Language model based grammatical error correction without annotated training data.” In *Proceedings of the 13th Workshop on Innovative Use of NLP for Building Educational Applications*, pages 247–253, New Orleans, Louisiana, USA.
- Christopher Bryant, Mariano Felice, and Ted Briscoe. 2017. “Automatic annotation and evaluation of error types for grammatical error correction.” In *Proceedings of the 55th Annual Meeting of the Association for Computational Linguistics*, pages 793-805, Vancouver, Canada.
- Mariano Felice, Christopher Bryant, and Ted Briscoe. 2016. “Automatic extraction of learner errors in ESL sentences using linguistically enhanced alignments.” In *Proceedings of COLING 2016, the 26th International Conference on Computational Linguistics: Technical Papers*, pages 825-835, Osaka, Japan.
- Christopher Bryant and Hwee Tou Ng. 2015. “How far are we from fully automatic high quality grammatical error correction?” In *Proceedings of the 53rd Annual Meeting of the Association for Computational Linguistics and the 7th International Joint Conference on Natural Language Processing (Volume 1: Long Papers)*, pages 697-707, Beijing, China.

M<sup>a</sup> Luisa García Lecumberri, Martin Cooke, and Christopher Bryant. 2015. “Accent evaluation from extemporaneous child speech.” *Poznań Studies in Contemporary Linguistics*, Volume 51, pages 227-246.

### Shared Tasks Organised

Christopher Bryant, Mariano Felice, Øistein E. Andersen and Ted Briscoe. 2019. “The BEA-2019 shared task on grammatical error correction.” In *Proceedings of the Fourteenth Workshop on Innovative Use of NLP for Building Educational Applications*, pages 52-75, Florence, Italy.

Nianwen Xue, Hwee Tou Ng, Sameer Pradhan, Rashmi Prasad, Christopher Bryant, and Attapol Rutherford. 2015. “The CoNLL-2015 shared task on shallow discourse parsing.” In *Proceedings of the Nineteenth Conference on Computational Natural Language Learning - Shared Task*, pages 1-16, Beijing, China.

Hwee Tou Ng, Siew Mei Wu, Ted Briscoe, Christian Hadiwinoto, Raymond Hendy Susanto, and Christopher Bryant. 2014. “The CoNLL-2014 shared task on grammatical error correction.” In *Proceedings of the Eighteenth Conference on Computational Natural Language Learning: Shared Task*, pages 1-14, Baltimore, Maryland, USA.

### Survey Papers

Christopher Bryant, Zheng Yuan, Muhammad Reza Qorib, Hannan Cao, Hwee Tou Ng, and Ted Briscoe. 2022. “Grammatical Error Correction: A Survey of the State of the Art.” In *Computational Linguistics*, under review.

### Theses and Technical Reports

Christopher Bryant. 2019. “Automatic annotation of error types for grammatical error correction.” *Technical Report UCAM-CL-TR-938*, PhD Thesis, University of Cambridge, Computer Laboratory.

Christopher Bryant and Mariano Felice. 2016. “Issues in preprocessing current datasets for grammatical error correction.” *Technical Report UCAM-CL-TR-894*, University of Cambridge, Computer Laboratory.

### Invited Talks and Tutorials

*The Evolution of Automatic Grammatical Error Correction* 2022  
NLP4CALL Workshop  
Leuven-la-Neuve, Belgium

*An Introduction to Automatic Grammatical Error Correction* 2022  
Cardiff NLP Summer Workshop  
Cardiff, Wales

*Current Challenges in Automatic Grammatical Error Correction* 2021  
RIKEN Center for Advanced Intelligence Project (AIP)  
Konan University, Kobe, Japan / Online

*An Introduction to Automatic Grammatical Error Correction (GEC)* 2021  
AICTE Faculty Development Program, Recent Advances of NLP using Deep Learning  
National Institute of Technology, Silchar, Assam, India / Online

*A Crash Course in Automatic Grammatical Error Correction* 2020  
With Roman Grundkiewicz and Mariano Felice

COLING Tutorials  
Barcelona, Spain / Online

*Error ANnotation Toolkit: ERRANT* 2020  
English Language iTutoring (ELiT) All-Hands Seminar  
Cambridge, UK / Online

*Unsupervised Grammatical Error Correction given Detection* 2020  
Automated Language Teaching and Assessment Annual Review Seminar  
Cambridge Assessment, Cambridge, UK / Online

*The BEA 2019 Shared Task on Grammatical Error Correction* 2019  
Automated Language Teaching and Assessment Annual Review Seminar  
Cambridge Assessment, Cambridge, UK

*Where is the matrix language? Data from the Canberra Vietnamese English corpus* 2019  
With Li Nguyen  
Center of Excellence for the Dynamics of Language (CoEDL) Linguistics Seminar  
The Australian National University, Canberra, Australia

*Grammatical Error Detection and Correction* 2017  
With Mariano Felice  
Summer School in Machine Learning for Digital English Language Teaching  
Chania, Crete, Greece

*Automatic Annotation for Error Correction* 2016  
With Mariano Felice  
Automated Language Teaching and Assessment Annual Review Seminar  
Cambridge Assessment, Cambridge, UK

### Supervising and Teaching

*Grammatical Error Correction using Sequence-Tagging and Masked Language Modelling* 2022  
Stuart Mesham  
MPhil in Advanced Computer Science, University of Cambridge  
Co-supervised with Dr. Zheng Yuan and Dr. Marek Rei

*Using NLP To Detect Public Opinion of Stock* 2022  
Karan Sharma  
BA (Hons) Computer Science, University of Cambridge  
Co-supervised with Dr. Mariano Felice

*Introducing a Copying Mechanism to Translation-Based Grammatical Error Correction* 2022  
Aleksander Misztal  
BA (Hons) Computer Science, University of Cambridge  
Co-supervised with Dr. Zheng Yuan

*A Recursive Recurrent Neural Network Decoder for Grammatical Error Correction* 2022  
Jiaxin Wang  
BA (Hons) Computer Science, University of Cambridge  
Co-supervised with Dr. Zheng Yuan

*Detecting Sustainability Initiatives in Company Reports* 2021  
Mircea-Dan Hirlea  
MSc in Artificial Intelligence, Imperial College London

Co-supervised with Dr. Marek Rei

*Artificial Error Generation for Grammatical Error Correction* 2021

Luou Wen

MPhil in Advanced Computer Science, University of Cambridge

Co-supervised with Dr. Marek Rei

*Unsupervised Grammatical Error Detection* 2020

Simone Primarosa

MPhil in Advanced Computer Science, University of Cambridge

Co-supervised with Dr. Marek Rei

*Natural Language and Information Processing* 2016-2017

Small group supervisions

University of Cambridge

### Peer Reviewing

Area Chair for Empirical Methods in Natural Language Processing (EMNLP 2022)

Computational Linguistics (CL)

Computer Speech and Language (CSL)

The Association for Computational Linguistics (ACL)

The Association for Computational Linguistics Rolling Review (ARR)

Transactions of the Association for Computational Linguistics (TACL)

The North American Chapter of the Association for Computational Linguistics (NAACL)

International Conference on Computational Linguistics (COLING)

The Joint Conference on Lexical and Computational Semantics (\*SEM)

Workshop on Innovative Use of NLP for Building Educational Applications (BEA)

Workshop on Natural Language Processing Techniques for Educational Applications (NLPTEA)

### General Skills

*Computing:* Python, Bash, LaTeX, Huggingface, spaCy, NLTK, Gradio, Git

*Human Languages:*

Native English

Intermediate Mandarin Chinese, Spanish

Upper Beginner Italian, French

Beginner Japanese, Vietnamese

### Links

Website: <https://chrisjbryant.github.io/>

Github: <https://github.com/chrisjbryant>

Google Scholar: <https://scholar.google.co.uk/citations?user=jMq-Pg4AAAAJ>

LinkedIn: <https://www.linkedin.com/in/christopher-bry4nt/>