

Emanuele Bugliarello

✉ emanuele@di.ku.dk ·  emanuelebugliarello ·  e-bug.github.io ·  e-bug ·  9yc1aXYAAAAJ

Research Interests

Multimodal and multilingual natural language understanding, representation learning, transfer learning

Education

PhD in Computer Science 2019–present
University of Copenhagen Copenhagen, Denmark
Advisors: Desmond Elliott, Anders Søgaard

MSc in Communication Systems, Data Analytics specialisation 2015–2018
École Polytechnique Fédérale de Lausanne (EPFL) Lausanne, Switzerland
Thesis: *Matrix Completion in the Unit Hypercube via Structured Matrix Factorization*
GPA: 5.53/6 (3/44)

BEng in Electronics and Information Engineering 2013–2018
Tongji University (同济大学) Shanghai, China
Thesis: *General large-batch methods for scalable accurate training of neural networks*
GPA: 29.34/30

BSc in Telecommunications Engineering 2012–2015
Politecnico di Torino Turin, Italy
GPA: 28.86/30 (3/120) – Graduation Grade: 110/110 *Cum Laude*

Machine Learning Schools: LxMLS 2020, OxML 2020, ALPS 2021

Experience

Visiting Researcher with Prof. Siva Reddy 01/2022–present
Mila – Quebec AI Institute Montreal, Canada

Research Scientist Intern with Rishabh Mehrotra and Mounia Lalmas 08/2020–11/2020
Spotify Research London, UK
On Multi-Objective Music Sequencing via Counterfactual Beam Search

Research Associate with Prof. Naoaki Okazaki 10/2018–09/2019
Okazaki Lab @ Tokyo Institute of Technology (東京工業大学) Tokyo, Japan
On Neural Machine Translation: Dependency-aware Self-Attention and Cross-Mutual Information

Visiting Scholar with Prof. Rui Fan and Prof. Dan Alistarh 04/2018–07/2018
ShanghaiTech University (上海科技大学) Shanghai, China
Large-Batch Algorithms for Deep Learning at Scale

Research Intern with Swayambhoo Jain, Brian Eriksson and Jean Bolot 09/2017–03/2018
Technicolor AI Lab Palo Alto, CA, USA
Intelligent Visual Effects Scheduling via Constrained Matrix Factorization

Research Assistant with Marcel Schöngens, Maxime Martinasso and Claudio Gheller 06/2017–09/2017
Swiss National Supercomputing Centre (CSCS) Lugano, Switzerland
Distributed TensorFlow: A performance evaluation

Teaching

Teaching Assistant, EPFL: Internet Analytics (COM-308) Spring 2017
Teaching Assistant, UCPH: Advanced Topics in Natural Language Processing (NDAK19001U) Winter 2020
Teaching Assistant, UCPH: Neural Information Retrieval (NDAK20002U) Spring 2021

Selected Publications

7. **Mostra: A Flexible Balancing Framework to Trade-off User, Artist and Platform Objectives for Music Sequencing**
E. Bugliarello, R. Mehrotra, J. Kirk, M. Lalmas
In *WWW 2022*
6. **Visually Grounded Reasoning across Languages and Cultures**
F. Liu*, E. Bugliarello*, EM. Ponti, S. Reddy, N. Collier, D. Elliott
In *EMNLP 2021* **Best Long Paper Award**
5. **Vision-and-Language or Vision-for-Language? On Cross-Modal Influence in Multimodal Transformers**
S. Frank*, E. Bugliarello*, D. Elliott
In *EMNLP 2021*
4. **Multimodal Pretraining Unmasked: A Meta-Analysis and a Unified Framework of Vision-and-Language BERTs**
E. Bugliarello, R. Cotterell, N. Okazaki, D. Elliott
TACL 2021
3. **The Role of Syntactic Planning in Compositional Image Captioning**
E. Bugliarello, D. Elliott
In *EACL 2021*
2. **It's Easier to Translate *out of* English than *into* it: Measuring Neural Translation Difficulty by Cross-Mutual Information**
E. Bugliarello, S.J. Mielke, A. Anastasopoulos, R. Cotterell, N. Okazaki
In *ACL 2020*
1. **Enhancing Machine Translation with Dependency-Aware Self-Attention**
E. Bugliarello, N. Okazaki
In *ACL 2020*

Invited Talks

- **Visually Grounded Reasoning across Languages and Cultures** CIMEC, University of Trento 06/2021
Samsung AI Center - Toronto 11/2021

Skills

Programming

- Python, Matlab
- NumPy, Pandas, scikit-learn
- PyTorch
- CUDA, SQL

Languages

- native: Italian
- fluent: English (TOEFL iBT 109)
- intermediate: French
- basic: Chinese (HSK III), Japanese, Danish

Fellowships, Honors, and Awards

EuroHPC Grant with Desmond Elliott on "Vision and Language on a Shoestring without Tear"	06/2021
University of Copenhagen Marie Skłodowska-Curie TALENT Doctoral Fellowship	06/2019
EPFL PhD Program in Computer Science Fellowship [offer declined]	05/2019
The Japanese Government (MEXT) Scholarship [offer declined]	01/2019
PoliTong Merit Scholarship	07/2013
MIUR National Register of Excellences	06/2012

Service

Reviewer: ARR, EMNLP, ICLR, IJCAI, NeurIPS

Organiser: Multilingual Multimodal Learning Workshop (ACL 2022)