Department of Computing
Imperial College London
United Kingdom
✉ o.caglayan@imperial.ac.uk
🌐 www.ozancaglayan.com
 ozancaglayan

Ozan Caglayan

Professional Experience

2021-	**Senior Research Engineer**, Contex.ai, UK
2019-2021	**Research Associate**, *Department of Computing*, Imperial College London, UK
	Funding: Multi-modal Context Modelling for Machine Translation (ERC)
2017–2019	**Engineer**, *Informatics Lab*, Le Mans University, France
	Funding: Multimodal Multilingual Continuous Representation for HLU (M2CR ChistEra)
Summer 2018	**Visiting**, *Center for Language & Speech Processing*, Johns Hopkins University, USA
	JSALT Workshop: Grounded Sequence-to-Sequence Team
2012–2017	**Research Assistant**, *Computer Engineering Department*, Galatasaray University, Turkey
Summer 2013	**Intern**, *Google Summer of Code 2013*, Advisor: Michael D. Roth (IBM)
	Integration of copy/paste ability between QEMU supervisor and guests.
Summer 2012	**Intern**, *Google Summer of Code 2012*, Advisor: Luis R. Rodriguez (Qualcomm)
	Development and packaging of Linux Kernel compatibility layer for drivers.
2007–2012	**Researcher**, *Scientific & Technological Research Council of Turkey (TUBITAK)*
	Pardus Linux Distribution
	Developed various components of Pardus Linux Distribution, maintained packages including Linux kernel, drivers, connectivity.
Summer 2007	**Intern**, *Scientific & Technological Research Council of Turkey (TUBITAK)*
	Pardus Linux Distribution
	Improved the Python codebase of continuous build servers and developed a web interface.
Summer 2006	**Intern**, *Scientific & Technological Research Council of Turkey (TUBITAK)*
	Optoelectronics Laboratory
	Developed an in-house C library by implementing several image processing algorithms for edge detection, color correction, histogram operations and sharpening.

Teaching Experience

2019-2021	**Guest Lecturer**, *Department of Computing*, Imperial College London, UK
	Co-lectured COMP70016 NLP module in 2020 and 2021 with Prof. Lucia Specia.
2012–2017	**Teaching Assistant**, *Galatasaray University*, Turkey
	Algorithms and C Programming, Operating Systems, Parallel Programming, Microprocessors.

Education

2014–2019	**PhD. Computer Science**, *Le Mans University*, France
	Topic: Multimodal Neural Machine Translation
2011–2014	**MSc. Computer Engineering**, *Galatasaray University*, Turkey, *GPA 3.93/4.0*
	Topic: A Portable and Embedded SSVEP BCI system: emBCI
2004–2008	**BSc. Computer Engineering**, *Galatasaray University*, Turkey, *GPA 3.2/4.0*
2007	**Erasmus Exchange**, *Université Joseph Fourier*, Grenoble/France
1996–2004	**High School**, *Lycée Saint-Joseph*, Istanbul/Turkey, *GPA 4.4/5.0*

Research Interests

Deep Neural Networks, Natural Language Processing, Machine Translation, Speech Recognition, Image Captioning, Multimodal Understanding, AI for Social Good, AI Ethics & Politics.

EEG-based Brain-computer Interfaces, Signal Processing.

Computer Skills

Python, NumPy, PyTorch, C/C++, Arduino & Processing, Matlab/Octave.

Basic web skills, HTML, CSS, Flask, ReST API.

Advanced UNIX/Linux skills.

Spoken Languages

Turkish (native), French (fluent), English (fluent)

Workshops Attended

01/2019	Joint Processing of Language and Visual Data for Better Automated Understanding, Schloss Dagstuhl/Germany
06/2018	Fifth Frederick Jelinek Memorial Summer Workshop, Baltimore/USA
04/2018	Master Class on Human Language Understanding (CHIST-ERA), Paris/France
10/2016	Mathematical Foundations of Artificial Intelligence, Nesin Matematik Koyu, Sirince/Turkey
10/2015	Deep Learning for Machine Translation Winterschool, Dublin/Ireland
08/2015	DTU Deep Learning Summer School, Copenhagen/Denmark
02/2014	Berlin BCI Winterschool on Neurotechnology, Berlin/Germany
07/2012	International Summer School and Workshop on Brain Dynamics, Turunc/Turkey
05/2012	State-of-the-art in Signal and Image Processing, Nesin Matematik Koyu, Sirince/Turkey

Software Projects

Python	SacreBLEU `https://github.com/mjpost/sacrebleu`
Python/Flask	Simple web interface for Multimodal MT Visualization `https://github.com/ozancaglayan/mmt-ui`
Python	Neural Machine Translation in PyTorch `https://github.com/lium-lst/nmtpytorch`
Python	Neural Machine Translation in Theano `https://github.com/lium-lst/nmtpy`
C/C++	Continuous Space Language and Translation Modeling Toolkit `https://github.com/hschwenk/cslm-toolkit`
Python	Emotiv EEG Data Acquisition Library `https://github.com/ozancaglayan/python-emotiv`

Hobbies

Photography, Guitar & Piano, Films, Table tennis & pool

Journal Publications

2022 Haralampieva, V.; Caglayan, O.; Specia, L. *Supervised Visual Attention for Simultaneous Multimodal Machine Translation*, to be appeared in Journal of Artificial Intelligence (JAIR).

2021 Citamak, B.; Caglayan, O.; Kuyu, M.; Erdem, E.; Erdem, A.; Madhyastha, P.; Specia, L. *MSVD-Turkish: A Comprehensive Multimodal Dataset for Integrated Vision and Language Research in Turkish*, Machine Translation Journal, volume 35 (2021).

2020 Specia, L. et al. (18 authors) *Grounded Sequence to Sequence Transduction*, IEEE Journal Of Selected Topics In Signal Processing, vol. 14, no. 3, pp. 577-591, March 2020.

2020 Sulubacak, U.; Caglayan, O.; Grönroos, S.A.; Rouhe, A.; Elliott, D.; Specia, L.; and Tiedemann J. *Multimodal Machine Translation through Visuals and Speech*, Machine Translation Journal, volume 34 (2020).

2017 Rougier, N.P et al. (2017) *Sustainable computational science: the ReScience initiative*, PeerJ Computer Science 3:e142.

2017 Caglayan, O.; García-Martínez, M. Bardet, A.; Aransa, W.; Bougares, F.; and Barrault, L. *NMTPY: A Flexible Toolkit for Advanced Neural Machine Translation Systems*, In Prague Bull. Math. Linguistics, 109: 15–28. 2017.

Conference Publications

2021 Mitzalis, F.; Caglayan, O.; Madhyastha, P.; Specia, L. *BERTGen: Multi-task Generation through BERT*, 59th Annual Meeting of the Association for Computational Linguistics and the 11th International Joint Conference on Natural Language Processing (ACL-IJCNLP) 2021.

2021 Caglayan, O.; Kuyu, M.; Amac, M.S.; Madhyastha, P.; Erdem, E.; Erdem, A.; Specia, L. *Cross-lingual Visual Pre-training for Multimodal Machine Translation*, 16th Conference of the European Chapter of the Association for Computational Linguistics (EACL) 2021.

2021 Ive, J.; Li A.M.; Miao Y.; Caglayan, O.; Madhyastha, P.; Specia, L. *Exploiting Multimodal Reinforcement Learning for Simultaneous Machine Translation*, 16th Conference of the European Chapter of the Association for Computational Linguistics (EACL) 2021.

2020 Caglayan, O.; Madhyastha, P.; and Specia, L. *Curious Case of Language Generation Evaluation Metrics: A Cautionary Tale*, 28th International Conference on Computational Linguistics (COLING) 2020.

2020 Caglayan, O.; Ive, J.; Haralampieva, V.; Madhyastha, P.; Barrault, L.; and Specia, L. *Simultaneous Machine Translation with Visual Context*, 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP) 2020.

2019 Wu, Z.; Caglayan, O.; Ive, J.; Wang, J.; and Specia, L. *Transformer-based Cascaded Multimodal Speech Translation*, 16th International Workshop on Spoken Language Translation (IWSLT) 2019.

2019 Caglayan, O.; Madhyastha, P.; Specia, L.; and Barrault L. *Probing the Need for Visual Context in Multimodal Machine Translation*, 2019 Conference of the North American Chapter of the Association for Computational Linguistics (NAACL) 2019 **Best short paper.**

2019 Caglayan, O.; Sanabria, R; Palaskar, S.; Barrault, L.; and Metze, F. *Multimodal Grounding for Sequence-to-Sequence Speech Recognition*, 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2019.

2018 Sanabria, R.; Caglayan, O.; Palaskar, S.; Elliott, D.; Barrault, L.; Specia, L.; and Metze, F. *How2: A Large-scale Dataset for Multimodal Language Understanding*, Workshop on Visually-Grounded Interaction and Language (ViGIL), NeurIPS 2018.

2018 Caglayan, O.; Bardet, A; Bougares, F; Barrault, L; Wang, K; Masana, M; Herranz, L; and van de Weijer, J. *LIUM-CVC Submissions for WMT18 Multimodal Translation Task* , In Proceedings of the Third Conference on Machine Translation, Volume 2: Shared Task Papers, Brussels, Belgium, October 2018. Association for Computational Linguistics.

2017 García-Martínez, M.; Caglayan, O.; Aransa, W.; Bardet, A.; Bougares, F.; and Barrault, L. *LIUM Machine Translation Systems for WMT17 News Translation Task*, In Proceedings of the Second Conference on Machine Translation, Volume 2: Shared Task Papers, Copenhagen, Denmark, September 2017. Association for Computational Linguistics .

2017 Caglayan, O.; Aransa, W.; Bardet, A.; García-Martínez, M.; Bougares, F.; Barrault, L.; Masana, M.; Herranz, L.; and van de Weijer, J. *LIUM-CVC Submissions for WMT17 Multimodal Translation Task*, In Proceedings of the Second Conference on Machine Translation, Volume 2: Shared Task Papers, Copenhagen, Denmark, September 2017. Association for Computational Linguistics.

2016 Caglayan, O.; Barrault, L.; and Bougares, F. *Multimodal Attention for Neural Machine Translation*, arXiv preprint arXiv:1609.03976.

2016 Caglayan, O.; Aransa, W.; Wang, Y.; Masana, M.; García-Martínez, M.; Bougares, F.; Barrault, L.; and van de Weijer, J. *Does Multimodality Help Human and Machine for Translation and Image Captioning?*, In Proceedings of the First Conference on Machine Translation, Berlin, Germany, August 2016. Association for Computational Linguistics.

2013 Caglayan, O.; and Arslan, R. B. *Humanoid Robot Control with SSVEP on Embedded System*, In Proceedings of the Fifth International Brain-Computer Interface Meeting, California/USA.

2013 Caglayan, O.; and Arslan, R. B. *Robotic Arm Control With Brain Computer Interface Using P300 and SSVEP*, IASTED International Conference Biomedical Engineering (BioMed 2013), Innsbruck/Austria.

2012 Caglayan, O.; and Arslan, R. B. *P300 based Auditory Visual Brain Computer Interface*, IEEE 20th Signal Processing and Communications Applications Conference (SIU) 2012.

Graduate Students

Current Aizaan Anwar – PhD. – Technical guidance on *Using longitudinal speech samples to predict disease recurrence in patients with brain tumours.*

Current Samia Sidahmed – MSc. – Co-supervision with Lucia Specia on *Visual question generation.*

Current Antonio Vespoli – MSc. – Co-supervision with Lucia Specia on *Prosody modulation for conversational speech.*

2020 Faidon Mitzalis – MSc. – Co-supervision with Lucia Specia on *Learning multilingual, multimodal embeddings for language and vision tasks.*

2020 Veneta Haralampieva – MSc. – Co-supervision with Lucia Specia on *Real-time interpreting with visual information.*