

Ece TAKMAZ

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WEBSITE: <http://ecekt.github.io>

GOOGLE SCHOLAR: <https://scholar.google.nl/citations?user=CX4qrKkAAAAJ>

RESEARCH INTERESTS

Natural Language Processing, Multimodal NLP, Cognitive Modelling, Natural Language Generation, Image Captioning, Multimodal Dialogue, Vision and Language, Eye-Tracking, Perception and Action

BACKGROUND

Utrecht University, Institute for Language Sciences 2025 - Now
Postdoctoral Researcher in the Language, Logic and Information division

Utrecht University, Department of Information and Computing Sciences 2024 - 2024
Postdoctoral Researcher in the NLP Group

University of Amsterdam, Institute for Logic, Language and Computation 2019 - 2023
PhD Candidate in the Dialogue Modelling Group
Thesis: ‘[Visual and Linguistic Processes in Deep Neural Networks: A Cognitive Perspective](#)’

University of Amsterdam 2017 - 2019
M.Sc. in Artificial Intelligence
Thesis: ‘[Caption the Gaze: Enhancing Neural Image Captioning with Eye-Tracking](#)’
CGPA: 8.6/10.0 *Honours*

Middle East Technical University, Ankara, Turkey 2012 - 2015
M.Sc. in Cognitive Science
CGPA: 3.95/4.00

Bilkent University, Ankara, Turkey 2008 - 2012
B.Sc. in Computer Engineering
CGPA: 3.21/4.00 *Honor*

ADDITIONAL EDUCATION

Laboratoire d’Informatique de Grenoble and Naver Labs Europe 2022
Advanced Language Processing Winter School

Middle East Technical University, Ankara, Turkey 2015 - 2017
Ph.D. student in Cognitive Science CGPA: 4.00, discontinued to move abroad

University of Amsterdam, Amsterdam, The Netherlands 2016
Summer School on Computational Modelling & Cognitive Development

OTHER WORK AND RESEARCH EXPERIENCE

University of Copenhagen, Copenhagen, Denmark Apr-May 2022
Visited Assist. Prof. Nora Hollenstein - *Center for Language Technology*

University of Amsterdam, Amsterdam, The Netherlands 2018 - 2019
Honours programme research - *Dialogue Modelling Group*
Language-and-vision models, multimodal datasets and multimodal representations

Aalto University, Espoo, Finland May-Aug 2017
Visiting Doctoral Student - *User Interfaces Group*

Middle East Technical University, Ankara, Turkey 2013 - 2017
Teaching and Research Assistant at *the Department of Cognitive Science*
Automated planning and affordances, eye-tracking, tool-making and problem-solving

Continued

ISCTE - University Institute of Lisbon , Lisbon, Portugal	Jan-Feb 2016
Early Stage Research Fellow - <i>Eye-tracking, multimodal interaction, silent speech</i>	+
IRIS:Towards Natural Interaction and Communication	Feb-Mar 2017
Project funded by the European Commission under the FP7 Marie Curie action.	
Microsoft Language Development Center , Lisbon, Portugal	Jul-Aug 2015
Early Stage Research Fellow	+
IRIS:Towards Natural Interaction and Communication	Jan-Feb 2015
Summer Intern at ASELSAN , Ankara, Turkey	Jun-Jul 2011
Summer Intern at AYESAS , Ankara, Turkey	Jun-Jul 2010

PUBLICATIONS

Ece Takmaz, Lisa Bylina, Jakub Dotlacil. Model Merging to Maintain Language-Only Performance in Developmentally Plausible Multimodal Models. Accepted to EMNLP 2025 Workshop BabyLM. [\[LINK\]](#)

Ece Takmaz, Albert Gatt, Jakub Dotlacil. Traces of Image Memorability in Vision Encoders: Activations, Attention Distributions and Autoencoder Losses. Accepted to the ICCV 2025 workshop MemVis: The 1st Workshop on Memory and Vision. [\[LINK\]](#)

Filippo Merlo, **Ece Takmaz**, Wenkai Chen, Albert Gatt. COOCO - Common Objects Out-of-Context - Semantic Violation in Scenes: Investigating Multimodal Context in Referential Communication. Preprint, 2025. [\[LINK\]](#)

Ece Takmaz. Visual and Linguistic Processes in Deep Neural Networks: A Cognitive Perspective. **PhD Thesis**. Universiteit van Amsterdam, 2024. [\[LINK\]](#)

Anna Bavaresco, Raffaella Bernardi, Leonardo Bertolazzi, Desmond Elliott, Raquel Fernández, Albert Gatt, Esam Ghaleb, Mario Giulianelli, Michael Hanna, Alexander Koller, André F. T. Martins, Philipp Mondorf, Vera Neplenbroek, Sandro Pezzelle, Barbara Plank, David Schlangen, Alessandro Suglia, Aditya K Surikuchi, **Ece Takmaz**, Alberto Testoni. LLMs instead of Human Judges? A Large Scale Empirical Study across 20 NLP Evaluation Tasks. In Proceedings of ACL 2025. [\[LINK\]](#)

Hanna-Sophia Widhoelzl, **Ece Takmaz**. Decoding Emotions in Abstract Art: Cognitive Plausibility of CLIP in Recognizing Color-Emotion Associations. In Proceedings of the Annual Meeting of the Cognitive Science Society 2024. [\[LINK\]](#)

Ece Takmaz, Sandro Pezzelle, and Raquel Fernández. Describing Images *Fast and Slow*: Quantifying and Predicting the Variation in Human Signals during Visuo-Linguistic Processes. In Proceedings of EACL 2024. [\[LINK\]](#)

Ece Takmaz*, Nicolo' Brandizzi*, Mario Giulianelli, Sandro Pezzelle, and Raquel Fernández. Speaking the Language of Your Listener: Audience-Aware Adaptation via Plug-and-Play Theory of Mind. In Findings of ACL 2023. [\[LINK\]](#) (* Shared first authorship)

Ece Takmaz. Team DMG at CMCL 2022 Shared Task: Transformer Adapters for the Multi- and Cross-Lingual Prediction of Human Reading Behavior. In Proceedings of the ACL 2022 Workshop on Cognitive Modeling and Computational Linguistics (CMCL). [\[LINK\]](#) ***Best Shared Task Paper Award***

Ece Takmaz, Sandro Pezzelle, and Raquel Fernández. Less Descriptive yet Discriminative: Quantifying the Properties of Multimodal Referring Utterances via CLIP. In Proceedings of the ACL 2022 Workshop on Cognitive Modeling and Computational Linguistics (CMCL). [\[LINK\]](#)

Sandro Pezzelle, **Ece Takmaz** and Raquel Fernández. Word Representation Learning in Multimodal Pre-Trained Transformers: An Intrinsic Evaluation. In TACL 2021. [\[LINK\]](#)

Continued

Gökhan Gönül, **Ece Takmaz** and Annette Hohenberger. Preschool children’s use of perceptual-motor knowledge and hierarchical representational skills for tool making. *Acta Psychologica*, 220, 103415, October 2021. [\[LINK\]](#)

Ece Takmaz, Sandro Pezzelle, Lisa Beinborn and Raquel Fernández. Generating Image Descriptions via Sequential Cross-Modal Alignment Guided by Human Gaze. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)*. [\[LINK\]](#)

Ece Takmaz, Mario Giulianelli, Sandro Pezzelle, Arabella Sinclair and Raquel Fernández. Refer, Reuse, Reduce: Grounding Subsequent References in Visual and Conversational Contexts. In *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)*. [\[LINK\]](#)

Janosch Haber, Tim Baumgärtner, **Ece Takmaz**, Lieke Gelderloos, Elia Bruni, and Raquel Fernández. The PhotoBook Dataset: Building Common Ground through Visually Grounded Dialogue. In *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019. [\[LINK\]](#)

Ravi Shekhar, **Ece Takmaz**, Raquel Fernández, and Raffaella Bernardi. Evaluating the Representational Hub of Language and Vision Models. In *Proceedings of the 13th International Conference on Computational Semantics (IWCS)*, 2019. [\[LINK\]](#)

Gökhan Gönül, **Ece Kamer Takmaz**, Annette Hohenberger, and Michael Corballis. The cognitive ontogeny of tool making in children: The role of inhibition and hierarchical structuring. *Journal of Experimental Child Psychology*, Volume 173, 222-238, May 2018. [\[LINK\]](#)

POSTER PRESENTATIONS

JUN 2025	Merlo, F., Takmaz, E., Chen, W., Gatt, A. COOCO - Common Objects Out-of-Context - Semantic Violation in Scenes: Investigating Multimodal Context in Referential Communication. <i>NLG in the Lowlands</i> . [LINK]
MAR 2024	Takmaz, E., Pezzelle, S. and Fernández, R. Describing Images <i>Fast and Slow</i> : Quantifying and Predicting the Variation in Human Signals during Visuo-Linguistic Processes. <i>ELLIS NLP Workshop at Oberwolfach Research Institute for Mathematics (MFO)</i> . [LINK]
JULY 2022	Takmaz, E., Pezzelle, S. and Fernández, R. Time Alignment between Gaze and Speech in Image Descriptions: Exploring Theories of Linearization. In <i>Proceedings of the Annual Meeting of the Cognitive Science Society</i> [Abstract]
MAY 2020	Takmaz, E., Pezzelle, S., Beinborn, L. and Fernández, R. Enhancing Image Captioning with Eye-Tracking. <i>GeCKo symposium: Integrating Generic and Contextual Knowledge</i> [Abstract]
OCT 2019	Takmaz, E., Beinborn, L., Pezzelle, S. and Fernández, R. Enhancing Image Captioning with Eye-Tracking. <i>EurNLP</i> . London, United Kingdom [Abstract] [Poster]
AUG 2019	Takmaz, E., Beinborn, L., Pezzelle, S. and Fernández, R. Enhancing Image Captioning with Eye-Tracking. <i>Interacting Minds Summer School in Egmond aan Zee</i> , The Netherlands [Poster]
SEP 2018	Shekhar, R., Takmaz, E., Kondylidis, N., Greco, C., Venkatesh, A., Bernardi, R. and Fernández, R. Learning to see from experience: But which experience is more propaedeutic? <i>European Conference on Computer Vision, Workshop on Shortcomings in Vision and Language</i> , Munich, Germany [Poster]

Continued

AUG 2017	Gonul, G., Takmaz, E.K., Corballis, M. and Hohenberger A. Perceptual/motor and representational factors in tool innovation in children 25th Annual Meeting of the European Society for Philosophy and Psychology (ESPP) Hertfordshire, UK
APR 2017	Takmaz, E.K., Akbas, E. and Zeyrek, D. Turkish Language Models Utilizing Character- vs. Syllable-Based Recurrent Neural Networks. 4 th International Symposium on Brain and Cognitive Science, Ankara, Turkey
JUL 2016	Gonul, G., Hohenberger A. and Takmaz, E.K. Tool innovation in 5-6-year-old Turkish pre-school children: The effect of familiarity and salience of affordances 24th Biennial Meeting of the International Society for the Study of Behavioural Development, Vilnius, Lithuania
APR 2014	Takmaz, E.K. and Bozsahin, C. A Computational Study on Learning Theories and the Role of Planning in Maze-Learning Environments. 1 st International Symposium on Brain and Cognitive Science, Istanbul, Turkey

GRANTS

NGF AiNed XS Europe grant (€80.000) covering my postdoc salary, conference, travel and accommodation costs for 7 months. I co-wrote the grant proposal titled ‘Multimodal context in multilingual referential communication: Integrating deep learning and human perception’ with Prof. Dr. Albert Gatt. We collaborate with researchers from Bielefeld University.

I obtained Small Compute (NWO) grants for GPU access from **Snellius - the Dutch National supercomputer** and **SURF HPC Cloud**, for 2 of my project proposals.

I have ongoing grant proposal submissions.

INVITED TALKS

DEC 2025	Guest Lecture - VU Amsterdam Conversational AI bachelor’s course
Nov 2025	Invited Talk at the CLASP Seminar at University of Gothenburg [LINK]
Nov 2025	Invited Talk at the ILFC Seminar - Interactions between Formal and Computational Linguistics [LINK]
OCT 2025	Invited Talk at the ‘Commonsense AI deep dive’ meeting at VU Amsterdam
DEC 2024	Guest Lecture - VU Amsterdam Conversational AI bachelor’s course
OCT 2024	Talk at Cohere For AI Open Science Community Research Communications event
OCT 2024	Invited Talk at the 7th International Seminar on Language and Interdisciplinary Research on Language
SEP 2024	Keynote at the 2nd Workshop on Linguistic Insights from and for Multimodal Language Processing (LIMO2024 @ KONVENS) [LINK]
JUN 2024	Invited Talk at NLG in the Lowlands [LINK]
JUN 2024	Invited Talk at the Workshop on NLP and Multi-Modality [LINK]
SEP 2023	Talk at SEA: Search Engines Amsterdam, organized by IRLab at the University of Amsterdam
SEP 2022	Talk at the NLP Seminar of the University of Pittsburgh
SEP 2022	Lecture for the Cognitive Science 3 course - University of Copenhagen
SEP 2022	Guest Lecture for the Computational Dialogue Modelling course - University of Amsterdam

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OCT 2021 | NLPd talk, Department of Language Science and Technology - Saarland University

SEP 2021 | Lecture for the Cognitive Science 3 course - University of Copenhagen

MAR 2021 | KUIS AI Talks - Koç University [\[LINK\]](#)

SERVICE

REVIEWER	ACL, EMNLP, LREC, COLING, CoNLL, COLM, ARR, CLIN, INLG, ICML and NeurIPS workshops, IEEE Transactions on Image Processing
AREA CHAIR	CoNLL 2025, COLM 2025, COLING 2025 Multimodal NLP and Grounded Language Acquisition, HRI track
MAR 2025 - Present	Member of the organization committee of the Computational Psycholinguistics Meeting 2025 (CPL)
SEP 2022 - Present	Member of the organization committee of the Cognitive Modeling and Computational Linguistics Workshop (CMCL), organized CMCL 2024 and 2025
JUL 2025 - Present	Member of the organization team of NLP@U Joint Special Interest Group across multiple departments where NLP researchers work in Utrecht
MAY 2024	Organized the Workshop on Modeling and Evaluating Visual and Linguistic Processes in Deep Neural Networks
MAR 2020 - AUG 2022	Member of the European Chapter of the Association for Computational Linguistics (EACL) Student Board
MAR 2020 - AUG 2022	EACL Student Research Workshop Co-Chair
DEC 2019 - SEP 2022	Member of the Institute for Logic, Language and Computation (ILLC) PhD Council
JUNE 2023	Organized REST-CL (REtreat for Students in Computational Linguistics) [LINK]
APRIL 2022	Organized REST-CL (REtreat for Students in Computational Linguistics) [LINK]
OCT 2016	Local Organizing Committee - 4 th International University Ranking by Academic Performance (URAP) Symposium "Significance of Field Rankings", Ankara, Turkey
APR 2015	Local Organizing Committee - 2 nd International Symposium on Brain and Cognitive Science (ISBCS), Ankara, Turkey
MAY 2014	Local Organizing Committee - Turkish-German Workshop: CogSci in Germany, CogSci in Turkey , Ankara, Turkey

SUPERVISION

Anaïs Aarntzen - Bachelor's thesis AI, Utrecht University

Morgaine Prasetya - Bachelor's thesis AI, Utrecht University

Ennis Vriens - Master's thesis AI, Utrecht University

Ilke Asal - Literature thesis for MSc in Brain and Cognitive Sciences, University of Amsterdam

Filippo Merlo - Master's thesis, Utrecht University, together with Prof. Dr. Albert Gatt

Wenkai Chen - Master's student internship, Utrecht University, together with Prof. Dr. Albert Gatt

Yavuz Alp Sencer Öztürk - Erasmus+ undergraduate student internship, Utrecht University

Hanna-Sophia Widhoelzl - Research Master's Brain and Cognitive Sciences internship, UvA

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MENTORSHIP

2024 - 2025 | Mentor - Bilkent University Computer Science Student Mentorship

2020 - 2021 | Mentor in 'Women in the Faculty of Science' at UvA

MEMBERSHIP

Since 2019 | Member of the Association for Computational Linguistics

Since 2020 | Member of the Cognitive Science Society

COMPUTER SKILLS

Python, PyTorch, TensorFlow, Java, C#, MATLAB, R, SPSS, Microsoft Kinect, Eye-Tracking, Unity3D, Linux OS, Microsoft Windows, PyCharm, Eclipse, Visual Studio, Android Development, Weka, ACT-R

GRADUATE COURSES ASSISTED

(As a Teaching Assistant at ILLC, University of Amsterdam)

Computational Dialogue Modelling

Natural Language Processing 1

Higher Cognitive Functions

Basic Probability Theory

(As a Teaching Assistant at the Department of Cognitive Science, Middle East Technical University)

Artificial Intelligence for Cognitive Science

Cognition and Machine Learning

Computational Models of Mind

Cognitive Algorithms

Linguistics and Formal Languages

Introduction to Cognitive Science

Research Methods and Statistics for Cognitive Science

Graduate Seminar for Cognitive Science

Human Memory

Introduction to Phonology

AWARDS AND HONORS

MAY 2022 | Best Shared Task Paper Award at the Cognitive Modeling and Computational Linguistics Workshop ([CMCL](#))

AUG 2019 | Cum laude Honours upon graduation, University of Amsterdam

MAY 2014 | Graduate Course Performance Award, Middle East Technical University

JUN 2012 | Graduated from Bilkent University with honors

AUG 2008 | Full Scholarship, Bilkent University, upon ranking 380th in the National University Entrance Exam among approximately 1.6 million students

LANGUAGES

TURKISH: Native

ENGLISH: Fluent

DUTCH: Upper Intermediate

GERMAN: Intermediate

PORTUGUESE: Beginner

ITALIAN: Beginner