

HÜSEYİN ORKUN ELMAS

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EDUCATION

Ph.D, Cognitive Neuroscience *Radboud University, Donders Institute, Netherlands* *Sep 2023 - Present*
M.S., Neuroscience, GPA: 3.87/4 *Bilkent University, Turkey* *Sep 2020 - July 2023*
Special Student in Neuroscience *Bilkent University, Turkey* *Jan 2020 - July 2020*
B.S., Computer Science GPA: 3.70/4 *Bilkent University, Turkey* *August 2015 - January 2020*
Exchange Semester, *Vrije University Amsterdam, Netherlands* *January 2018 - July 2018*

EXPERIENCE

PhD Candidate, Brain, Body, Tech lab & Sensorimotor Control Lab *Sep 2023 - Present*

- Working on investigating the neurocomputational mechanisms underlying 2D and 3D tactile localization.

MS Researcher, Urgan Lab *Jan 2019 - July 2023*

- **Effects of Prior Information on Biological Motion Perception** (M.S. Thesis Project)
 - Contributed to the design of a series of decision-making experiments using biological motion stimulus and cued individuation paradigm.
 - Designed and implemented a follow-up EEG experiment using the same paradigm. Collected EEG data from over 30 participants and trained interns on EEG and behavioral data collection.
 - Developed a custom data preprocessing pipeline using EEGLAB and MNE.
 - Analyzed EEG data using univariate and multivariate techniques such as temporal decoding and temporal generalization with MNE-Python.
 - Contributed to writing progress reports for the funding agency.
- **Temporal Characteristics of Agent Perception**
 - Used representational similarity analysis (RSA) and implemented a temporal variant for EEG data using Python and Matlab.
 - Explored the interaction of prior and visual information on the temporal dimension of agent perception using RSA and multiple linear regression on EEG data. Utilized R for statistical analysis.
 - Contributed to the manuscript preparation process.
- **Investigation of Processing of Observed Actions using sEEG Data**
 - Analyzed sEEG dataset of 40 patients using decoding and regression with MNE-Python.
 - Participated in decisions on data processing and analysis methods.

Junior Data Scientist, Databoss Security and Analytics *Jul 2018 - Nov 2018*

- Worked on anomaly and event detection from social media data using machine learning with Python.
- Experimented with machine learning models to identify irregularities in time-series data.
- Developed graph machine learning algorithms using C++.
- Contributed to writing project milestone documents.

Undergraduate Volunteer Researcher, Bilkent University, Ankara *June - Feb 2017*

- Participated in the research of M.S. student Mert Sarıyıldız under the supervision of Gökberk Cinbis.
- Developed a zero-shot learning model using TensorFlow with Python.
- Contributed to the Python implementation of an evaluation framework for zero-shot learning.

PEER REVIEWED CONFERENCE PRESENTATIONS

Hüseyin O. Elmas, Berfin Aydın, Sena Er, Ada D. Rezaki, Ayşesu İzgi, Buse M. Urgan, Huseyin Boyaci, Burcu A. Urgan. The effect of prior knowledge on biological motion perception. V-VSS, 2022. (*Accepted to the VSS, could not attend in person due to visa issues.*)

Hüseyin O. Elmas, Sena Er, Ayse P. Saygin, Burcu A. Urgan. Temporal characteristics of visual processing of agents in action observation. ECVP 2021.

Sena Er, **Hüseyin O. Elmas**, Ayse P. Saygin, Burcu A. Urgan. The effect of prior knowledge on visual processing of agents: Time-resolved representational similarity analysis on EEG data. SfN Global Connectome, 2020.

Hüseyin O. Elmas, Sena Er, Ayse P. Saygin, Burcu A. Urgan. The effect of prior knowledge on visual processing of agents: Time-resolved representational similarity analysis on EEG data. 18th National Neuroscience Congress, 2020.

Hüseyin O. Elmas, Sena Er, Ayse P. Saygin, Burcu A. Urgan. Temporal characteristics of visual processing of actions: Time-resolved RSA on EEG data. 7th International Symposium on Brain and Cognitive Science, 2020.

WORKSHOP / SEMINAR PRESENTATIONS

Advanced EEG analysis techniques: Representational Similarity Analysis, lecture as final part of the Usage of EEG in Cognitive Neuroscience Research: Basic and Advanced Analysis Techniques workshop presented by Burcu A. Urgan, Berfin Aydın, Hilal Nizamoglu, Sena Er, **Hüseyin O. Elmas**

Classification of agents from EEG in action perception presented by **Hüseyin O. Elmas**, Sena Er, Doren Calliku. Cognitive Psychology and Science Meeting at TED University

AWARD, SCHOLARSHIPS & CERTIFICATES

- Animal Models of Neurodegenerative Diseases EGE BINGSS Graduate Summer School *June 2022*
- Domestic Graduate Scholarship Award (BİDEB 2210/A) by The Scientific and Technological Research Council of Turkey (TÜBİTAK). *Oct. 2020*
- Graduation with High-Honor Student Award *Jan. 2020*

PROJECTS

- **Android video-chat app to study together**
 - Used Kotlin to implement Android app that enables users to use video chat for studying together.
 - Implemented part of the UI and video-chat function as well as back end functionality.
- **Superpixel Grouping Based Object Localization**
 - Implemented a superpixel grouping based object localization algorithm for generating object proposals
 - 3 member group project for Image Analysis course.
- **Tetris Game on 8x8 Led Matrix on FPGA (Basys3)**
 - Implemented the tetris game using System Verilog. Contributed to implement transformations of tetris pieces. 2 member group project for Digital Design course Project.
- **NYT Crossword Puzzle Solver**
 - Implemented crossword puzzle solver for NYT mini puzzles, trying to conduct meaningful search.
 - Used Bing API, Datamuse, and Wordnet. AI course project with 4 other students.

SKILLS

Academic Writing, Training undergraduate research assistants in EEG and behavioral data collection
Neuroimaging Analysis: Intracerebral recordings, scalp EEG
Programming: Python, Matlab, R, C++, Java, SQL, Swift
Software: MNE-Python, Git, EEGLAB, Keras, ERPLAB, Psychtoolbox, Tensorflow.

TEACHING EXPERIENCE

Teaching Assistant Department of Computer Engineering, Bilkent University *September 2020 - Present*

- Helped students complete their lab assignments in CS101, CS102 and CS115.
- Taught debugging, reading errors and clean code conventions in labs.
- Graded lab and homework assignments in Python and Java labs.