Berhan Senyazar

Bozkurt Mah. Esrefefendi Sokak, Sisli
Istanbul, Turkey

+90 (543) 977-1467
berhansenyazar@gmail.com

Education

Ph.D. Brain and Cognitive Sciences, University of Rochester,
September 2017 - July 2018 (Withdrawl).
Advisor: Dr. Robert Jacobs

M.A. Cognitive Science, Bogazici University, 2017.
Areas of Study: Psychology and Computer Science
Advisors: Dr. Inci Ayhan, Dr. Albert Ali Salah

B.Sc. Computer Engineering, Bogazici University, 2014.
Advisor: Dr. Albert Ali Salah

Karabuk Mehmet Vergili Science High School, 2009.
Karabuk, Turkey

Skills and Qualifications

Technical Skills

Programming: Worked on projects using Matlab, Python, Java, C/C++, C#, Javascript/HTML/CSS, Objective-C, SQL

Data analysis: R, Statistics Toolbox for Matlab, Palamedes Toolbox, SPSS, Microsoft Excel

Machine learning: Keras, TensorFlow

Computer Vision: OpenCV, EmguCV, Image Processing Toolbox for Matlab, VLFeat

Eye-tracking: ASL 6 Remote

Experiment Design: PsiTurk, Psychtoolbox for Matlab, ePrime

Language Skills

TOEFL (November, 2016): 112/120

Research Experience

Research Assistant September, 2017 - July, 2018
Computational Cognition and Perception Lab
Dr. Robert Jacobs
Department of Brain and Cognitive Sciences, University of Rochester, Rochester, NY, USA

Studied on rational analysis of visual working memory (VWM) using information theory and Bayesian models to investigate why seemingly irrelevant information is stored in VWM despite all the evidence about VWM as a highly efficient information storage system.

Trained on computational models of cognition with an emphasis on Bayesian methods.

Worked on and analyzed artificial neural network models for exploratory studies to assess their suitability to explain cognitive phenomena in humans.

Designed, conducted and analyzed an independent research study on visual working memory under the supervision of Dr. Robert Jacobs.

Research Assistant September, 2015 - August, 2017
Vision Lab
Dr. Inci Ayhan
Department of Psychology, Bogazici University, Istanbul, Turkey

Trained on design and analysis of psychophysical studies to investigate visual phenomena.

Designed, conducted, analyzed and presented an independent research study on scene perception under the supervision of Dr. Inci Ayhan.

Assisted the music cognition study of Elif C. Kaplan and Dr. Esra Mungan from Cognitive Science Program with general programming, design of a psychophysical experiment and analysis of the data.

Assisted other lab members with design and programming of experiments in Matlab Psychtoolbox, stimulus design and generation, data collection and analysis, and presentation of findings.

Supervised undergraduate assistants and interns on their studies in the laboratory.

Research Assistant February, 2014 - September, 2015
Medialab
Dr. Albert Ali Salah
Department of Computer Engineering, Bogazici University, Istanbul, Turkey

Trained on image processing and pattern recognition techniques.

Developed a method for the parsimonious representation of textures by creating an approximate inverse of Perlin texture synthesis algorithm using machine learning and texture analysis techniques.

Worked with the visiting Ph.D. student Andreza Sartori from University of Trento, Italy on the design and analysis of an eye-tracking study on the saliency maps of abstract artworks.

Worked with Computer Engineering M.Sc. student Cigdem Kocberber under the supervision of Dr. Albert Ali Salah to develop a multimodal dynamic saliency model to be used in video sequences. Designed and conducted an eye-tracking study with multimodal stimuli.

Undergraduate Research Assistant April - June, 2014
Dr. Burak Guclu
The Institute of Biomedical Engineering, Bogazici University, Istanbul, Turkey

Analyzed the behavioral and EEG data of a neuroeconomics study on time-discounting using Matlab, helped the interpretation of dipole analysis of brain regions and reported the results with discussions of findings.

Research Intern July - Semptember, 2013
SSBS, a research and development focused start-up
Istanbul, Turkey

Worked on a hand-vein recognition system for biometric identification applications.

Developed a program and a database for the collection of hand-vein data with an infrared camera.

Implemented image processing algorithms to analyze hand-vein images.

Work Experience

Undergraduate Teaching Assistant October, 2013 - June, 2014
Department of Computer Engineering, Bogazici University
Istanbul, Turkey

Taught at the laboratory sessions of Introduction to Programming class explaining the basic concepts of programming in C language to engineering students from other departments and assisted them to solve programming problems.

Engineering Intern July - August, 2012
Done Communications
Istanbul, Turkey

Developed a web-based game to be published in Facebook Platform.

Publications

Proceedings

Sartori, A., **Senyazar, B.**, Akdag Salah, A. A., Salah, A. A., & Sebe, N. (2015). Emotions in Abstract Art: Does Texture Matter?. *18th International Conference on Image Analysis and Processing, ICIAP 2015* (pp. 671-682). Springer International Publishing.
(Oral presentation by me at the conference)

Posters

Senyazar, B., Salah, A. A., & Ayhan, I. (2016, August) *The Role of Attention on the Minimum Presentation Duration Required for Scene Recognition.* Poster presented at the 39th European Conference on Visual Perception, Barcelona, Spain.

Sartori, A., **Senyazar, B.**, Akdag Salah, A. A., Salah, A. A., & Sebe, N. (2015, April). *Contribution of Texture in Feelings Evoked in Abstract Paintings* Poster presented at the 2nd International Symposium on Brain and Cognitive Science, Ankara, Turkey
(With a focus on my contributions)

Theses

The Role of Attention in Scene Perception

(M.A Thesis in Cognitive Science)

Investigated the attention requirements of scene perception tasks at different conceptual levels using dual-task paradigm and psychophysical methods. Comparison of behavioral results with the predictions of a feedforward neural network model without any attention component showed that the responses of human participants had a similar pattern to the computational model only when their attention level was reduced with another concurrent task.

A D3.js Visualization Tool for Cultural Analytics of Abstract Artworks

(Senior Thesis in Computer Engineering)

A web based interactive visualization tool to analyze huge sets of abstract artworks regarding their affective properties and low-level visual features.

Scholarships and Achievements

The National Science Foundation Research Traineeship (NRT) 2017 - 2018
Goergen Institute for Data Science, University of Rochester

Participated in *Graduate Training in Data-Enabled Research into Human Behavior and its Cognitive and Neural Mechanisms* program which included coursework on machine learning, statistics, cognitive modeling, and computational neuroscience and career development activities for academia and industry.

Ph.D. Scholarship 2017 - 2022
Department of Brain and Cognitive Sciences, University of Rochester

Awarded a scholarship that covered my tuition fee and provided me a stipend for my living expenses for the duration of my doctorate education.

Graduate Record Examinations (GRE) November, 2016

Verbal Reasoning: 169/170 (99th percentile), Quantitative Reasoning: 168/170 (95th percentile), Analytical Writing: 4/6 (59th percentile)

2210-B National Scholarship Programme for MA Students 2015 - 2017
The Scientific and Technological Research Council of Turkey

Awarded to few number of graduate students with high academic merit who changed their discipline to social and behavioral sciences.

30,000 Turkish Lira annual stipend for two years.

University Entrance Exam 2009

Reached the highly competitive 659^{th} place in the score category of medical and engineering schools among approximately one and a half million participants.

High School Entrance Exam 2005

Scored in the 99^{th} percentile in the nationwide exam with approximately one million participants.

Other Experiences

Erasmus Exchange Student February - June, 2013
Technical University of Denmark
Kgs. Lyngby, Denmark

Collaborated with highly competent international students in a high-quality education environment.

Gained the ability of living abroad. Travelled around Europe and had firsthand experience of different cultures.

Volunteer March, 2011 - December, 2012
Young Guru Academy (YGA)

Worked on Read-Think-Share project, which is a volunteer based mentorship project for the students at disadvantaged elementary schools all around Turkey.

Organized five schools and 25 volunteers in Istanbul for a year on the project.

Selected to the Leadership School of YGA and attended to the training sessions with the industry and NGO leaders in Turkey.

Took a part in the initial design and development of Hayal Ortagim project, a digital information hub for visually disabled, which was later granted quite a few national and international awards, including an Innovators Under 35 award from MIT Technology Review.

Contributor October, 2009 - June, 2011
Avaz Avaz Music Magazine

Covered cultural events, reviewed albums and conducted interviews with influential musicians.

Published a series of weekly short stories for 3 months with the theme of the identity shaping effect of music.