GÖKER ERDOĞAN

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PROFESSIONAL EXPERIENCE

Cogitai, Inc.   August 2017 - present
AI Research Scientist

Pfizer Pharmaceuticals, Istanbul, Turkey   September 2008 - September 2010
Corporate Applications Specialist

IBM, Istanbul, Turkey   June 2006 - August 2006
Project Intern

EDUCATION

University of Rochester

    Joint Ph.D. in Brain and Cognitive Sciences and Computer Science   June 2017
    Thesis: Shape Perception as Bayesian Inference of Modality-Independent Part-Based 3D
    Object-Centered Shape Representations
    Advisor: Dr. Robert A. Jacobs

    M.A. in Brain and Cognitive Sciences   2012-2015

Center for Brains, Minds, and Machines Woods Hole, MA, USA

    Brains, Minds, and Machines Summer Course   May-June 2014

Boğaziçi University Istanbul, Turkey

    M.S. in Computer Engineering   2010-2012
    Thesis: Spectral Methods for Outlier Detection
    Advisor: Dr. Ethem Alpaydin

Istanbul Technical University, Istanbul, Turkey

    B.S. in Computer Engineering   2003-2008
    Advisor: Dr. Feza Buzluca

Fachhochschule Konstanz, Konstanz, Germany

    Erasmus Exchange Student   2006-2007

PUBLICATIONS

Journal Publications

1. **Erdogan G.**, Jacobs R. A. (2017) Visual Shape Perception as Bayesian Inference of 3D
   Object-centered Shape Representations. *Psychological Review.* pdf

2. **Erdogan G.**, Chen, Q., Garcea F. E., Mahon B. Z., Jacobs R. A. (2016) Multisensory Part-Based
   Representations of Objects in Human Lateral Occipital Complex. *Journal of Cognitive Neuroscience.*
   Vol. 28, No. 6, pp. 869-881. pdf

3. **Erdogan G.**, Yildirim I., Jacobs R. A. (2015) From Sensory Signals to Modality-Independent
   Conceptual Representations: A Probabilistic Language of Thought Approach. *PLoS Comput Biol*
   11(11): e1004610. pdf

Conference Proceedings

1. **Erdogan G.**, Jacobs R. A. (2016) A 3D shape Inference Model Matches Human Visual Object Similarity Judgments Better Than Deep Convolutional Neural Networks. Papafragou, A., Grodner, D., Mirman, D., & Trueswell, J.C. (Eds.) *Proceedings of the 38th Annual Conference of the Cognitive Science Society.* Austin, TX: Cognitive Science Society. pdf

2. **Erdogan G.**, Yildirim I., Jacobs R. A. (2015). An Analysis-by-Synthesis Approach to Multisensory Object Shape Perception. Multimodal Machine Learning Workshop. NIPS 2015. pdf

3. **Erdogan G.**, Yildirim I., Jacobs R. A. (2014). Transfer of Object Shape Knowledge across Visual and Haptic Modalities. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society.* Austin, TX: Cognitive Science Society. pdf

PROGRAMMING EXPERIENCE

⌕ https://github.com/gokererdogan

Python, Matlab, R, C/C++, .NET, SQL, Web programming.

Sample Projects

- Implementation of various deep generative models including VAE, ConvDRAW, and GQN.. *Implemented in Python. Uses MXNet deep learning library.*
- Infer3DShape: Probabilistic inference of 3D shape from 2D images. *Implemented in Python, uses vtk for rendering 3D objects.*
- mcmclib: Markov Chain Monte Carlo library. *Implemented in Python.*
- rllib: Reinforcement learning library. *Implemented in Python, uses Theano to provide neural network function approximators.*
- Outlier Detection Toolbox. *Implemented in MATLAB.*

INVITED TALKS

Center for Brains, Minds, and Machines. MIT (Boston, USA)　　　　　　　　　　　November 2016
Shape Perception as Probabilistic Inference of 3D Shape.

38th Annual Cognitive Science Society Meeting (Philadelphia, USA)　　　　　　　　August 2016
A 3D shape inference model matches human visual object similarity judgments better than deep convolutional neural networks.

NIPS Multimodal Learning Workshop (Montreal, Canada)　　　　　　　　　　　December 2015
An Analysis-by-Synthesis Approach to Multisensory Object Shape Perception.
⌕ https://youtu.be/co8eAx6tK7Y

TEACHING EXPERIENCE

Lecturer, Pontificia Universidad Javeriana
Introduction to Machine Learning, 26-30 Nov. 2018
20 hour class intended as an introduction to Machine Learning.
Course description and lecture notes

Lecturer, Charlottesville Machine Learning Meetup
Introduction to Machine Learning, October 2018
20 hour class intended as an introduction to Machine Learning.
Course description and lecture notes

Teaching Assistant, University of Rochester
BCS183: Animal Minds, Fall 2015
BCS153: Cognition, Spring 2015
BCS111: Foundations of Cognitive Science, Spring 2014

PROFESSIONAL ACTIVITIES

Annual reviewer for CogSci, 2017 - present.
Charlottesville Machine Learning Meetup organizer, 2017 - present. webpage
Member of Cognitive Science Society, 2014 - 2017.

HONORS AND AWARDS

Brains, Minds, and Machines Summer Course Summer Course Scholarship *2014*
University of Rochester Graduate Scholarship *2012 - 2017*
National Graduate Study Scholarship granted by Scientific and Technological Research Council of Turkey *2010-2012*
Istanbul Technical University Undergraduate Honor Scholarship *2003-2008*
Graduated with Honors in 4th place from Istanbul Technical University Computer Engineering Department
41st in Graduate Entrance Exam among 300,000 students
272nd in Undergraduate Entrance Exam among 1,000,000 students

OTHER INFORMATION

Languages: English (fluent), Turkish (native).
Citizenship: Turkish.

REFERENCES

Available upon request.