

GİZEM KÜÇÜKOĞLU

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EDUCATION

- 2011-present Ph.D. Experimental Psychology, New York University, New York, USA
Advisor: Laurence T. Maloney (2011-2014)
Advisor: Michael S. Landy (2014-present)
Co-advisor: Wendy J. Adams, University of Southampton (2014-present)
Expected graduation: October 2016
- 2014 M.A. Psychology, New York University, New York, USA
- 2011 Cognitive Science, Middle East Technical University, Ankara, Turkey
Completed 28 course credits towards M.S.
- 2009 B.S. Computer Science, Bilkent University, Ankara, Turkey

RESEARCH EXPERIENCE

- 2009-2011 Research Assistant, National Research Center for Magnetic Resonance (UMRAM), Ankara, Turkey
Advisor: Katja Doerschner

Conducted psychophysics experiments to understand effects of surface material on shape and motion perception.

Investigated effects of surface material congruence on object recognition using fMRI and psychophysics.

ONGOING DOCTORAL RESEARCH PROJECTS

Is gloss perception context dependent? :

Objects reflect the environment they are in. This means that an image presented by a material not only depends on the reflectance properties of the surface, but also on the illumination condition. This project aims to find out to what extent the visual system is gloss constant under changes in illumination and when the illumination context is not available. (VSS 2015 talk slides:

<http://www.cns.nyu.edu/~msl/talks/kucukogluetal15.pdf>)

Are gloss and shape jointly estimated? :

The research in perceived gloss has been lacking in terms of matching physical dimensions of gloss and shape to perceptual dimensions. This project uses physical scales for both and gloss and shape and measures the perceived gloss and shape using a matching task. The aim of the project is to show that gloss and shape are jointly estimated and build a model using various image cues to explain how changes in gloss affect changes in perceived shape and vice versa. (VSS 2016 poster:

<http://www.cns.nyu.edu/~msl/posters/kucukogluetal16.pdf>)

Do additional cues influence material perception? :

When we interact with objects in real life we experience cues such as stereopsis, motion and touch, which are mostly not present all at the same time in controlled experiments. The goal of this project is to enhance shape and surface material

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perception by introducing haptic shape cues without changing the visual information about the surface material. We will present veridical and conflicting shape cues using haptic PHANTOM and measure whether the haptic cues effect to the visually perceived glossiness of materials.

TEACHING EXPERIENCE

- 2013 Teaching Assistant, Perception. Undergraduate course
Lecturer: Laurence T. Maloney
- 2014 Teaching Assistant, Lab in Human Cognition. Undergraduate course
Lecturer: Brice Kuhl
- 2015 Teaching Assistant, Perception. Undergraduate course
Lecturer: Laurence T. Maloney
- 2015 Grader, Perception. Undergraduate course
Lecturer: Sarah Dubrow
- 2016 Grader, Perception. Undergraduate course
Lecturer: Stephanie Badde

INDUSTRY EXPERIENCE

- 2014 Data Science Intern, Knewton. New York, NY.
Develop and test models to predict students' learning behavior. Blog post about the project: <http://knewt.ly/1Ha8o5H>
- 2008 Software Engineering Intern, Ekinoks Software. Ankara, Turkey.
Developed analytics software to create statistical reports on various website metrics.
- 2007 UI Design Intern, Logo Business Solutions. Ankara, Turkey.
Developed and tested the user interfaces of ERP Solution software for right-to-left written languages.

JOURNAL ARTICLES

Katja Doerschner, Ozgur Yilmaz, Gizem Kucukoglu, Roland W. Fleming (2013). Effects of surface reflectance and 3D shape on perceived rotation axis. *Journal of Vision*, 13(11):8. doi: 10.1167/13.11.8.

Maarten W. A. Wijntjes, Katja Doerschner, Gizem Kucukoglu, Sylvia C. Pont (2012) Relative flattening between velvet and matte 3D shapes: Evidence for similar shape-from-shading computations. *Journal of Vision*, 12(1):2. doi: 10.1167/12.1.2.

CONFERENCE ABSTRACTS

Talks:

Kucukoglu, G., Adams, W., Landy, M. S. (2015). Gloss constancy across changes in illumination. *Journal of Vision*, 15(12):941. doi:10.1167/15.12.941

Kucukoglu, G., Maloney, L. T. (2014). Estimation of angular velocity of objects differing in material is inconsistent. *Journal of Vision*, 14(10):1319. doi: 10.1167/14.10.1319.

Kucukoglu, G., Fleming, R., Doerschner, K. (2010). Effects of Shape and Surface Material on Perceived Object Rotation Axis. *Journal of Vision*, 10(7):58. doi: 10.1167/10.7.58.

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Poster presentations:

Kucukoglu, G., Landy, M. S., Adams, W. J. (2016). Joint estimation of surface gloss and 3D shape. *Presented at VSS May 2016*, St. Pete Beach.

Kucukoglu, G., Maloney, L. T. (2013). Interactions between surface material and perception of angular velocity of rotating 3D objects. *Journal of Vision*, 13(9):67. doi: 10.1167/13.9.67.

Yilmaz, O., Kucukoglu, G., Fleming, R. W., Doerschner K. (2011). Structure-from-motion predicts misperceived rotation axis for specular surfaces. *Perception 40 ECVF Abstract Supplement*, p. 64

Wijntjes, M., Doerschner, K., Kucukoglu, G., Pont, S. (2010) What velvet teaches us about 3D shape perception. *Journal of Vision*, 10(7):1227. doi: 10.1167/10.7.1227.

Doerschner, K., Wijntjes, M., Kucukoglu, G., Pont, S. C. (2009). Effects of surface material on perceived 3-D shape: comparing velvet and matte reflectances. *Perception 38 ECVF Abstract Supplement*, p. 29

(PDFs/Links of all these work can be found on my website.)

FELLOWSHIPS/AWARDS

- 2016 Dean's Student Travel Grant, New York University
- 2015 Student Senators Council Conference Funding, New York University
- 2011 MacCracken Fellowship, New York University

WORKSHOPS AND SUMMER SCHOOLS

- 2013 PRISM2: The science of light and shade, Bordeaux, France
- 2011 Material Perception Workshop, University of Giessen, Schloss Rauschholzhausen, Germany

INVITED TALKS

- 2016 Creative Tech Week NYC, Panel Moderator and Speaker
"Do Androids Dream? Depp Visual Abstraction from Artificial Neural Networks"
- 2015 Brainard Lab, Psychology Department, University of Pennsylvania, Philadelphia
"Gloss constancy across changes in illumination"
- 2010 Computer Science Department, Bilkent University, Ankara, Turkey
"Intersections between vision science and computer science"

REVIEWING ACTIVITIES

Ad Hoc Reviewer: *Journal of Vision*

PROFESSIONAL AFFILIATIONS

- 2009-present Predoctoral Member, Vision Sciences Society
- 2011 Predoctoral Member, Society for Neuroscience

Updated: May 2016