

NEDA SHAHIDI

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Objective My goal is understanding failures of decision making. In particular, examining the dynamics of cortical circuits involved in planning a goal-directed behavior, as well as understanding how the general physiological state of beings impacts the quality of decisions.

RESEARCH EXPERIENCE

Sensory Motor Group <i>German primates Center, Göttingen, Germany</i>	Aug 2020- now
Gollisch Lab <i>Dept. of Ophthalmology, Universitätsmedizin Göttingen, Göttingen, Germany</i> <ul style="list-style-type: none">Comparing temporal models of retinal ganglion cells	Aug 2018- Aug 2020
Dragoi Lab <i>Dept. of Neurobiology and Anatomy, Univ. of Texas, Houston, Texas</i> <ul style="list-style-type: none">Neural correlates of foraging strategy in prefrontal cortex of free-moving macaquesEnhancement of perceptual accuracy and the relevance of coordinated spikesMulti-site micro-stimulation of cortical neurons in various frequency bands	Jan 2012- July 2018
Felleman Lab <i>Dept. of Neurobiology and Anatomy, Univ. of Texas, Houston, Texas</i> <ul style="list-style-type: none">Response characteristics of area V2 and V4 of macaque brain using information theory	Sep 2011- Dec 2011
Priebe Lab <i>Dept. of Neurobiology, The Univ. of Texas at Austin, Austin, TX</i> <ul style="list-style-type: none">Classification of simple and complex neurons in cat primary visual cortex, using whole-cell patch clamp recording	Nov 2010- Aug 2011
Seidemann Lab <i>Center for Perceptual Systems, The Univ. of Texas at Austin, Austin, TX</i> <ul style="list-style-type: none">The effect of attention on the neuronal activities of primary visual cortex, using voltage sensitive dye imagingThe training curve of a macaque for an attention-based detection task	Sep 2009- Oct 2010
RoboSoccer(Stone) Lab <i>Dept of Computer Sciences, The Univ. of Texas at Austin, Austin, TX</i> <ul style="list-style-type: none">Response delayed policy for autonomous intersection managementA mixed reality framework for autonomous intersection managementObstacle avoidance of Sony Ibo robots using infra-red sensors	Sep 2006- Aug 2010
System Control Lab <i>Dept of Electrical and Computer Eng, Univ. of Tehran</i> <ul style="list-style-type: none">Controlling a DC motor using a network model of Amygdala and Orbito-frontal cortexSelf-adaptive memetic algorithms for path planning of mobile robots	Jun 2002- Aug 2005

EDUCATION

Ph.D. in Neuroscience

University of Texas, Health Science Center at Houston, Houston, Texas

Sep 2011-
July 2018

Adviser: Prof. Valentin Dragoi

Dissertation title: population codes and their correlates in decision making

M.Sc. in Electrical Engineering

Electrical and Computer Engineering, The University of Texas at Austin, Austin, Texas

May 2007-
Aug 2010

Adviser: Prof. Peter Stone

Thesis title: Response delayed policies for autonomous intersection management

B.Sc. in Electrical Engineering

University of Tehran, Tehran, Iran

Aug 1999-
May 2004

Adviser: Prof. Caro Lucas

Thesis title: Application of memetic algorithms to the path planning of mobile robots

INVITED LECTURES

Population Coding of strategic variables during foraging in free-moving macaques
Neuromatch virtual conference

2020

Population coding and its correlates in decision making
Institute for Research in Fundamental Sciences, Tehran, Iran

2019

Representation of the 'rules of the game' in prefrontal cortex of free-moving monkeys
Neuroscience program retreat, Navasota, Texas

2017

Higher-order coordination of visual cortical activity enhances perceptual accuracy
Gulf Coast Conference, Houston, Texas

2016

Neural correlates of decision making: When population is more than individuals
Neuroscience program new retreat, Galveston, Texas

2015

TEACHING EXPERIENCE

Teaching Assistant

Texas Advanced Computing Center, Univ. Texas at Austin

Fall 2009
Spring 2010

Graduate level "Parallel Computing" and "Scientific and Technical Computing"

Lab Teaching and Mentoring

Dept of Electrical and Computer Eng., Univ. of Texas at Austin

Fall 2007
Spring 2009

Under-graduate level "Electronic Lab"

Teaching Assistant

Dept of Electrical and Computer Eng., Univ. of Tehran

Spring 2002
Fall 2002
Spring 2003

Under-graduate level "Computer Architecture" and "Digital Logic Circuits"

REFERENCES

Information was removed for the online version and will be provided upon requests.

PUBLICATIONS

Journal

- Milton R., **Shahidi N.**, Dragoi V., "Dynamic states of population activity in prefrontal cortical networks of freely-moving macaque", *Nature Communication*, 2020
- **Shahidi N.**, Schrater P., Wright A., Pitkow X., Dragoi V., "Population coding of strategic variables during foraging in freely-moving macaques", *bioRxiv*, 2019
- **Shahidi N.**, Andrei A.R., Hu M., Dragoi V., "Higher-order coordination of cortical activity modulates perceptual accuracy", *Nature Neuroscience*, 2019

Dissertation

- **Shahidi N.**, "Population codes and their correlates in decision " (2018). *UT GSBS Dissertations and Theses (Open Access)*. 888

Conference

- Kumar A., Wu Z., Shahidi N., Dragoi V., Pitkow X., Schrater P., Interring latent states from foraging behavior, Cognitive Computational Neuroscience (CCN), New York, NY, 2017
- Shahidi N., Hu M., Andrei A.R., Dragoi V., Behaviorally relevant information is revealed in synchrony of triplets and quartets but not pairs, Computational and System Neuroscience extended abstract in COSYNE meeting, Salt Lake City, UT, 2015
- Shahidi N., Hu M., Andrei A.R., Dragoi V., Changes in laminar synchrony in V1 reflect perceptual decisions, Society for Neuroscience (SfN) meeting, San Diego, CA, 2013 and extended abstract in COSYNE meeting, Salt Lake City, UT, 2013
- Shahidi N., Priebe N., Ferster D., "A unimodal distribution of linear and nonlinear spatial responses in primary visual cortex" SfN meeting, Washington, DC, 2011
- Au T.Z., Shahidi N., Stone P., "Enforcing Liveness in Autonomous Traffic Management," Proceedings of the Twenty-Fifth Conference on Artificial Intelligence, August 2011
- Shahidi N., Au T.Z., Stone P., "Batch Reservations in Autonomous Intersection Management," extended abstract, in proceeding of Autonomous Agents and Multi-Agent Systems (AAMAS), Taipei, Taiwan, 2011
- Shahidi N., Esmailzadeh H., Abdollahi M., Lucas C., "Memetic Algorithm Based Path Planning for a Mobile Robot," Inter. J of Information Technology, Vol. 1, Num. 4, 2004
- Shahidi N., Esmailzadeh H., Abdollahi M., Ebrahimi E., Lucas C., "Self-Adaptive Memetic Algorithm: An Adaptive Conjugate Gradient Approach," Proceedings of 2004 IEEE Conference on Cybernetics and Intelligent Systems (CIS), Singapore, 2004