Vandad Davoodnia

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EDUCATION Bachelor of Science, Electrical Engineering 2012-2017

Sharif University of Technology, Tehran, Iran

Major: Electronic and Electrical Engineering (Bioelecteric)

Current GPA: 3.03/4 (15.41/20) via 120 credits

Diploma in Mathematics and Physics

Salam Sadeghie High School, Tehran, Iran

GPA: 19.36/20

2008-2012

RESEARCH INTEREST

Neural Engineering, BCI, Neuroimaging, Neural Signal processing, Tangible Reality and Virtual Reality

RESEARCH EXPERIENCE Research Assistant

Spring 2016 - Present

Institute for Research in Fundamental Sciences (IPM), Brain Engineering Research Center Research Advisor: Dr. Reza Lashgari

• Developing of real time experimental control system.

- Modeling and analyzing the relation between single unit and LFP response properties in different layers of visual cortex V1 of primate.
- Developed an iOS and Android App for a visual monitoring system with collaboration of Dr. Jose Manual Alonso, SUNY(USA).

Research Assistant

Spring 2015 - Spring 2016

Institute for Research in Fundamental Sciences (IPM), School of Cognitive Sciences Research Advisor: Dr. Reza Lashgari

- LFP signal Modeling and Clustering within different layers of visual cortex V1 of primate.
- Non-linear properties of SUA and LFP.
- Developed Eye Speed App for Android and iOS to develop new tests that can be used to monitor the progression of a visual disease.

Research Assistant

Fall 2014 - Spring 2015

Iran University of Science and Technology (IUST), Lashgari Lab

Research Advisor: Dr. Reza Lashgari

- Image segmentation in MR pictures
- 3D anatomical modeling of the primate brain for visualization purposes

TEACHING **EXPERIENCE** Teaching Assistant

Fall 2015

Fundamental of Neuroscience, Dr. Reza Lashgari,

Department of Physics, Sharif University of Technology

- Planed and Graded final course projects for class of 40 students.
- Thought basics of neural coding.

SKILLS

LABORATORIES Assisted in macaque training for attention tasks

Assisted in Electro-physiological lab setup for recording MUA and LFP activity

Assisted in implementing a real time experimental control system for controlling behavioral responses

COMPUTER SKILLS

- Programming: MATLAB, C/C++/C# (SDL, GTK+, OpenCV, Hardware Programming, GLUT/OpenGL, VTK, .Net, SQLite, Kinect, SQL Server), Objective-C (iOS, OS X), GISDK (Transcad), JAVA (Andriod, Window Builder, OpenGL), Action Script 2.0, Python
- Biomedical Image Processing Softwares: 3D-Slicer, Mango
- PCB and Electronic Designs: Altium, OrcadPSPICE (PSpice, HSpice), Proteus, Cadsoft Eagle
- Type Casting: LATEX, Microsoft Office
- Web Designing: HTML, CSS, PHP, Java Script, Visual Basic Script, SQL
- Graphical and Designing Tools: Autodesk AutoCAD, CorelDRAW, 3D Unity, Autodesk 3DMax

HONORS AND AWARDS

• Ranked 4th in Nationwide University Entrance Exam (Concours)	2012
• Passed the First Round of Iranian National Chemistry Olympiad	FEB 2011
• Passed the First Round of Iranian National Computer Olympiad	FEB 2011
• Passed the First Round of Iranian National Mathematics Olympiad	FEB 2011
• Passed the First Round of Iranian National Astronomy Olympiad	FEB 2011
• Passed the First Round of Iranian Computer Skills Competition	FEB 2011

PUBLICATIONS

- Zhao, L., Sendek, C., **Davoodnia, V.**, Lashgari, R., Dul, MW., Zaidi, Q., Alonso, JM. " Effect of age and glaucoma on the detection of darks and lights. IOVS Journal. 2015 Oct 1; 56 (11):7000-6 Oct 2015
- Davoodnia, V., Lashgari, R., Alonso, J.M. "Published an android and iOS mobile app in Google Play and Apple Store as "EYE SPEED" to measure the reaction time of visual system. Oct 2015

ABSTRACTS CONFERENCES

- Alikhani M, Rahimabadi A, Rahimi Nasrabadi H, Zangane M, **Davodnia V**, Lashgari, R. Neural adaptation in primary visual cortex of awake primates . Chicago, IL: Society for Neuroscience 2015
- Rahimabadi A, Alikhani M, **Davodnia V**, Zangane M, Rahimi Nasrabadi H, Lashgari, R. Method for analyzing neuronal response variability based on frequency response amplitude. Chicago, IL: Society for Neuroscience, 2015

SELECTED ACADEMIC PROJECTS

- Dr. Fardmanesh, Application of Electronic Circuits in Biomedical Engineering course Designed and implemented a Neural Recording System by using Instrumental AmplifierSpring 2016
- Dr. Hajipour, Computational Intelligence course Implemented a NN Program for BCI2003 competition in MATLAB Spring 2016
- Dr. Farhadi, Linear Control course Designed a linear control system in MATLAB for controlling a non-linear system Spring 2016
- Dr. Haj Sadeqi, Microprocessor Systems course
 Designed and programmed a Touch Scientific Calculator by Arduino UNO
 Fall 2015
- Programmed a N-Dimension Cellular Automata interface for Advanced
 Programming course project in C
 Fall 2015
- Dr. Tabande, Computer and Microprocessor Structure course

 Designed and Built a Fire-Fighter robot with a group of students by ATmega32 Fall 2014
- Dr. Sarvari, Principle of Electronics course
 Designed and implemented a BJT audio amplifier
 Fall 2014
- Dr. Mahiar, Operation Systems course
 Developed and Programmed a Linux shell in C
 Spring 2014
- Dr. Safar Nezhad, Fundamentals of Programming C course
 Developed and Programmed a 2D Football game

 FALL 2012

EXTRA CURRICULAR ACTIVITIES	• Designed, Programmed and Implemented a Computer-Robot interface for object recognition and tracking by a WiFi Module and OpenCV For "Sharif Cup Competition"	Summer 2014
	• Programmed a Circuit Simulator Program in MATLAB	Spring 2014
	• Programmed an Add-in in Transcad/GISDK for Iran rail network simulation	2013 - 2014
	• Programmed an Add-in in Transcad/GISDK for Iran transit road simulation	2012 - 2013
	• Built a Path-Tracker Robot for "Sharif Cup Competition"	Summer 2013
	• Designed and Programmed a billiard game in C using SDL Library	Fall 2013
	• Programmed more than 20 Applications/Games/Simulation Programs	2012 - 2017
	during BSc as a freelance programmer	
	• Worked as a private teacher	2011-2013
RELATED	Neural Modeling	Fall 2016
COURSES	Ultra Sound Imaging	Fall 2016
	• Applications of Electronic Circuits in Biomedical Engineering	Spring 2016
	• Computational Intelligence	Spring 2016
	Principle of Biomedical Engineering	Fall 2015
	Microprocessor Systems	Fall 2015
	• Physiology	Fall 2016
	• Biosensors	Spring 2015
	• Operation Systems	Fall 2014
	• Computer Structure and Microprocessor	Fall 2014
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MEMBERSHIPS	• Student Member of IEEE.	
LANGUAGE	• English: Fluent (TOEFL Exam due to 16 OCT)	

• Farsi: Native