Shiran Dudy

PERSONAL INFORMATION	Address E-mail Web	**1955 NW Hoyt, 97209, Portland, Oregon** **shirdu2@gmail.com** **www.shirandudy.com/(academic website)**

RESEARCH INTERESTS

- Assistive Technology or Augmentative and Alternative Communication (AAC), Brain-Computer interface (BCI), (Bio)ethics.
- Language Modeling (LM) for users, message decoding for healthy and non-healthy users, code switching.
- Continuous-Output prediction, Embedding spaces representation, GANs and RL.
- Tools for Morphological Languages, Hebrew in particular.
- Error Analysis, Models Interpretability.
- Speech recognition, Speech synthesis.

EDUCATION

2013-present

Ph.D. in Computer Science
Focus on Machine Learning applied to NLP.
"Oregon Health and Science University" (OHSU), Portland, OR, USA
Paticipate in Brain-Computer Interface (BCI) project. Part of the Language Model (LM) team whose aim is to improve BCI letter prediction by developing LM modules. The goal is to facilitate locked-in patients when composing a sentence with a BCI.

2012

B.Sc. in Biomedical Engineering
Focused on Signal Processing
"Ben Gurion University" (BGU), Israel
Final project made in signal processing field, in collaboration with AudioCodes company, with the goal of conducting a feasibility test for a Text To Speech system (TTS) for the Hebrew language.

2011-2012

Extra courses, Signal Processing
Took several undergraduate and graduate level courses at the Electrical Engineering Department. (BGU)
Fundamentals of Speech Signal Processing
Speech Signals Coding & Compression
Introduction to Digital Image Processing

PUBLICATIONS

"Noisy Neural Language Modeling for Typing Prediction in BCI Communication", R. Dong, D. Smith, S. Dudy, S. Bedrick, Association for Computational Linguistics (NAACL), SPLAT workshop, Minineapolis, 2018.

"Compositional Language Modeling for Icon-Based Augmentative and Alternative Communication", S. Dudy, S. Bedrick, Association for Computational Linguistics (ACL), DeepLo workshop, Melbourne, 2018.

"A Multi-Context Character Prediction Model for a Brain-Computer Interface", S. Dudy, S. Xu, S. Bedrick, D. Smith, North American Association for Computational Linguistics (NAACL), SCLeM workshop, New Orleans, 2018.

"Automatic Analysis of Pronunciations for Children with Speech Sound Disorders", S. Dudy, S. Bedrick, M. Asgari, and A. Kain, Computer Speech and Langauge (CSL) journal, 2018

"OHSU @ MediaEval: Adapting Textual Techniques to Multimedia Search", S. Dudy, S. Bedrick, MediaEval Benchmarking Initiative for Multimedia Evaluation (IEEE satellite event), Wurzen, 2015

"Pronunciation Analysis for Children with Speech Sound Disorders", S. Dudy, M. Asgari, and A. Kain, IEEE Engineering in Medicine and Biology society (EMBC), Milan, 2015

"Phonetic Search in a New Target Language Using Multi Language Indexing and Phonetic Mappings", In Proceedings 2013 Speech Processing Conference, Tel Aviv, 2013

ACADEMIC QUALIFICATIONS	2017	**Teaching Assistant** "Introduction to Deep Learning", Professor Meysam Asgari Included homework preparation and grading, and demos. (OHSU)
	2016	**Teaching Assistant** "Analyzing Sequences", Professor Stephen Wu Included homework preparation and grading. (OHSU)
	2013	**Signal Processing Researcher** Afeka Center for Language Processing (ACLP), Professor Ami Moyal Participate in 2 researches on key-word spotting.
	2012-2013	**Research Assistant** Speech and Signal Processing Lab, Professor Sharon Gannot. The lab focuses on the study of speech and acoustics. Participated in a research to develop a de-reverberated signal to enhance speech recognition performance. "Bar Ilan University" (BIU)
	2011-2012	**Teaching Assistant** "Introduction to Stochastic Processes" Professor Maoz Shamir. Included lesson plan, frontal instruction and grading. (BGU)
	2009-2010	**Research Assistant** Computational Motor Lab, Professor Amir Karniel The lab focuses on the study of human motor control and biomechanics. Participated in the "handshake experiment," based on Turing test theory. (BGU)
WORK EXPERIENCE	2016	**Cylance Inc.** (Summer internship) Worked as a deep learning engineer in data science team. Implemented deep learning architectures to detect malware.
	2015	**Sensory Inc.** (Summer internship) Worked as a speech processing engineer. Integrated trigger-based speaker verfication process, incorporated new elements to the process and estimated optimal model parameters. Worked on a user defined process to employ a digit sequence task.
	2012	**Vocal-Zoom** (Start-Up company) Worked as a signal processing engineer. Their mission is to enable communication and speech recognition, especially in noisy environments.
	2011-2012	**Vectorious Medtech** (Start-Up company) Worked as a research and development engineer. Their mission is to develop a monitoring device for Congestive Heart Failure patients.

PC SKILLS		
	Languages:	Python, R, Ruby, Matlab, TCL, Cython, C++, Bash/Shell, Cygwin
	Task Mngmnt:	Hadoop, MPI, Condor, Spark
	OS:	Linux, OSX, Windows, Docker (VM)
	ASR Tools:	HTK, Kaldi, Openfst
	Search engine:	Lucene
	Python Tools:	PyTorch, TesorFlow, Keras, Scikit-learn ,virtualenv
	Paper related:	Latex, Bibtex, vim
	Version Control:	Git (repos on github, docker hub)
	Cloud Service:	Amazon EC2, Amazon Route 53 (DNS service)

AWARDS	GREPSEC cybersecurity workshop scholarship, 2017

38th Security and Privacy Symposium student travel award, 2017
Student Research Workshop (SRW) travel award to attend ACL, 2018
Graduate Student Organization (GSO) at OHSU travel award to attend NAACL, 2018

LANGUAGES	English (high fluency level) Hebrew (native speaker) Arabic (basic level)	
PERSONAL SKILLS	Good human interaction skills Good in planning and meeting objectives Know how to work under pressure Well organized and responsible	
ARMY SERVICE	2004-2006	Sergeant, The Medical Corps Guided medical crews and prepared them for daily emergency aids, prepared crews for warfare scenarios. Served as a medic as well.