

ALTUG KARAKURT

661 Dreese Laboratories, 2015 Neil Avenue Columbus, OH 43210
(614)-3696795 ◊ karakurt.1@osu.edu ◊ github.com/altugkarakurt

EDUCATION

M.S. Electrical & Computer Engineering Advisors: Dr. Atilla Eryilmaz & Dr. C. Emre Koksakal The Ohio State University, Columbus, OH, USA	August 2016 - May 2018 CGPA: 3.11/4.00
B.S. Electrical & Electronics Engineering Bilkent University, Ankara, Turkey	September 2012 - May 2016 CGPA: 3.32/4.00
TED Ankara College Private High School International Baccalaureate (IB) Diploma Programme	September 2008 - June 2012

SPECILIZATIONS / RESEARCH INTERESTS

- Statistical Learning Theory, Multi-Armed Bandits, Applied Machine Learning
- Information Theory
- Communication Networks, Network Optimization
- Music Information Retrieval, Computational Musicology

PUBLICATIONS

(I currently have 2 conference and 2 journal papers under review.)

- O. Saritac, A. Karakurt, & C. Tekin. (2016). “Online contextual influence maximization”. In Proceedings of 54th Annual Allerton Conference on Communication, Control, and Computing, October 2016, Monticello, IL, USA.
- A. Karakurt, S. Senturk, & X. Serra. (2016). “MORTY: A Toolbox for Mode Recognition and Tonic Identification”. In Proceedings of 3rd International Digital Libraries for Musicology Workshop (DLfM 2016). pages 9-16, New York, NY, USA.

SOFTWARE SKILLS

(F) - Fluent, (I) - Intermediate, (N) - Novice

Languages	(F) Python, (I) C/C++, (I) Java, (I) MATLAB, (I) SQL, (I) VHDL, (I) HTML/CSS/JS
Tools	Git, Jupyter, VirtualEnv, Travis CI, GNU/Linux Environment, MySQL
Libraries	NumPy, SciPy, Matplotlib, scikit-learn, Pandas, NetworkX, Flask, Django, Cython, SimPy, Essentia

INDUSTRY EXPERIENCE

Network Architecture Intern December 2014 - January 2015
Robo Engineering Lab and UNOVA R&D, Ankara, Turkey

- I worked in the development of a remotely operated industrial vehicle. I developed an ad-hoc network using Raspberry Pi nodes and Babel protocol to carry the commands from the driver to the vehicle and real-time video stream from the vehicle.

Embedded Systems Intern June 2014 - August 2014
Teknik Group Embedded Systems, Ankara, Turkey

- I have extensively worked on STM32L low-power microprocessor for a sensor network application. I ported a bootloader tool developed for another architecture to this microprocessor and had the opportunity of gaining experience on low-level C programming.

RESEARCH EXPERIENCE

Graduate Research Assistant

August 2016 - Present

Dept. of Electrical & Computer Engineering, The Ohio State University, Columbus, OH

- I have been working under the supervision of Dr.Eryilmaz and Dr.Koksals. We are investigating the basic limits of multi-station detection problem. I have also worked on scalable adaptive wideband random access policies for multi-user communication networks.

Research Collaborator

November 2015 - Present

Dept. of Electrical & Electronics Engineering, Bilkent University, Ankara, Turkey

- Under the supervision of Dr.Cem Tekin, we are doing theoretical analyses of online machine learning problems and their novel applications. We have published our work on online influence maximization problem and we are currently working on active learning as well as combinatorial and multi-objective learning problems. I am a remote collaborator.

Research Collaborator

September 2016 - January 2017

Cognitive and Systematic Musicology Laboratory, The Ohio State University, Columbus, OH

- We have developed a corpus study to understand some of the emotional content in popular music. We investigated the cross-cultural harmonic properties of aggression and sadness in popular music, using natural language processing and harmonic analysis.

Research Intern

June 2015 - August 2015

Music Technology Group, Universitat Pompeu Fabra, Barcelona, Spain

- I have worked in the EU funded CompMusic project under the supervision of Dr. Xavier Serra. We have developed pattern recognition and classification methods to classify non-Western music traditions. We have implemented a scientific computation library called MORTY and curated the largest classification dataset of the domain. Further details can be found in our accompanying publication.

Research Intern

August 2015 - September 2015

National Nanotechnology Research Center, Bilkent University, Ankara, Turkey

- I have implemented sensitive measurement tools to be used at Elbiken Group's microfluid and lab-on-a-chip research projects.

ACADEMIC SERVICE

Reviewer for IEEE Transactions on Information Theory

2018

Organization Team of Audio Technologies for Music & Media International Conference

2013, 2014

EXTRA-CIRRICULAR ACTIVITIES

Attended HackOH/IO Hackathon

2017

Attended Nesin Mathematics Summer School

2014

Biweekly Music Columnist in University Newspaper Bilkent News

2013-2016

Board Member at Bilkent Amateur Radio Student Branch

2012-2014

Board Member at Bilkent Free Software Student Branch

2012-2016

4th Standing in T2 Big Data Hackathon

2014

Attended Akademik Bilisim National IT Conference

2013, 2014, 2015