Haluk Dogan

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Contact

(+1) 402 527 8414

539 N 24th St Apt 19
Lincoln, NE, USA

hlk.dogan@gmail.com

github.com/haluk

Programming Languages

♥ Java, ♥ Python, Scala, R
Lisp, Haskell, C
Bash/Zsh Scripting, LaTeX

Foreign Language

Turkish (Native)
English (Advanced)
Danish, German (Beginner)

Web Technologies

Django Web Framework,
Spring Boot, Vaadin RIA,
Apache/Nginx Web Server

Scientific Technologies

NumPy, SciPy, scikit-learn
TensorFlow, Keras, PyTorch
Smile, aGrUM, Tetrad, Coq

Miscellaneous Technologies

♥ OpenSource
♥ Linux Mint/Ubuntu/Debian
SVN/♥Git/Mercurial
MySQL/PostgreSQL/Oracle
Hibernate, SQLAlchemy
Maven, sbt, CMake

Research Interests

Machine Learning, Deep Learning, Graphical Models, Bioinformatics, Functional Programming, Compiler Optimization, Formal Program Verification, Database Query Planning Optimization

Employment History

Aug 2018–	**University of Nebraska-Lincoln** *Teaching and Research Assistant*	**Lincoln, NE - USA**
Aug 2013–May 2017	**University of Nebraska-Lincoln** *Research Assistant*	**Lincoln, NE - USA**
Nov 2010–Jun 2013	**Istanbul Bilgi University** *Teaching and Research Assistant*	**Istanbul - Turkey**
Mar 2010–Jun 2010	**i2i Systems** *Java Developer*	**Istanbul - Turkey**
Nov 2010–Jun 2013	**GNA** *Business Intelligence Consultant*	**Istanbul - Turkey**
Mar 2008–Jun 2008	**Aradiom** *Java Developer*	**Istanbul - Turkey**

Education

2018–	**Doctor of Philosophy** Department of Computer Science	**University of Nebraska-Lincoln, NE - USA**
2011–2013	**Master of Science** Department of Computer Engineering	**Bogazici University, Istanbul - Turkey**
2008–2009	**Exchange Student** Department of Computer Science	**Aarhus University, Aarhus - Denmark**
2006–2010	**Bachelor of Science** Department of Computer Science	**Istanbul Bilgi University, Istanbul - Turkey**

Side Projects

- Implemented and designed I/O-efficient merge-sort algorithm
- Implemented and designed I/O-efficient heap and heap sort algorithm
- Implemented offline and online versions of minimum spanning tree problem using sparsification technique
- Implemented and designed McCreight's suffix tree construction algorithm
- Implemented and designed Stoye-Gusfield's algorithm for finding all occurrences of tandem repeats
- Implemented and designed a distributed application that sends SMS messages by connecting to SMSC via SMPP by using Apache Thrift RPC Framework
- Implemented and designed J48 Decision Tree, Multi-Layer Perceptron Neural Network, and Naive Bayes algorithms
- Implemented and designed Huffman Coding and Arithmetic Coding algorithms

Publications

1. Wang, F., Kaplan, J. L., Gold, B. D., Bhasin, M. K., Ward, N. L., Kellermayer, R., ... & **Dogan, H.** (2016). Detecting microbial dysbiosis associated with pediatric Crohn disease despite the high variability of the gut microbiota. Cell reports, 14(4), 945-955.
2. Tomov, M. L., Olmsted, Z. T., **Dogan, H.**, Gongorurler, E., Tsompana, M., Otu, H. H., ... & Paluh, J. L. (2016). Distinct and Shared Determinants of Cardiomyocyte Contractility in Multi-Lineage Competent Ethnically Diverse Human iPSCs. Scientific reports, 6.
3. **Dogan, H.**, Nalbantoglu, U., Cakar, A., Abaci, N., Ustek, D., Sayood, K., & Can, H. (2014). Metagenomic analysis of the microbial community in kefir grains. Food microbiology, 41, 42-51.
4. **Dogan, H.**, Can, H., & Otu, H. H. (2014). Whole genome sequence of a Turkish individual. PloS one, 9(1), e85233.
5. **Dogan, H.**, & Otu, H. H. (2014). Objective functions. Multiple sequence alignment methods, 45-58.
6. Isci, S., **Dogan, H.**, Ozturk, C., & Otu, H. H. (2013). Bayesian network prior: network analysis of biological data using external knowledge. Bioinformatics, 30(6), 860-867.