HASAN BALCI

+90-555-4189178 ⋄ hasan.balci@bilkent.edu.tr ⋄ hasan.balci.bilkent.edu.tr

Department of Computer Engineering, Bilkent University, Ankara/Turkey, 06800

EDUCATION

Bilkent University *September 2016 - Present*
PhD in Computer Engineering, CGPA: 3.77/4.00
Supervisor: Prof. Dr. Ugur Dogrusoz

Bilkent University *2012-2015*
MS in Computer Engineering, CGPA: 3.69/4.00
Supervisor: Prof. Dr. Ugur Gudukbay
Master Thesis: Sun Position Estimation on Time-lapse Videos for Augmented Reality Applications

Bilkent University *2007-2012*
BS in Computer Engineering, CGPA: 3.58/4.00

RESEARCH INTERESTS

Graph Visualization and Layout Algorithms

- force-directed and spectral layout algorithms

- complexity management of large graphs

- development of user-friendly graph visualization tools

- dynamic graph visualization

RESEARCH EXPERIENCE

Research Assistant *September 2016 - Present*
i-Vis Research Lab, Bilkent University
Research on graph visualization and layout algorithms

Research Assistant *2012 - 2015*
Mod-Vis Research Group, Bilkent University
Research on augmented reality and illumination estimation

PUBLICATIONS

H. Balci and U. Dogrusoz, "fCoSE: a fast compound graph layout algorithm with constraint support", *IEEE Transactions on Visualization and Computer Graphics*, 2021.

A. Okka, U. Dogrusoz, and **H. Balci**, "CoSEP: a compound spring embedder layout algorithm with support for ports", *Information Visualization*, 2021.

H. Balci, M. C. Siper, N. Saleh, I. Safarli, L. Roy, M. Kilicarslan, R. Ozaydin, A. Mazein, C. Auffray, O. Babur, E. Demir, and U. Dogrusoz, "Newt: a comprehensive web-based tool for viewing, constructing, and analyzing biological maps", *Bioinformatics*, 37(10), pp. 1475-1477, 2021.

U. Dogrusoz, A. Karacelik, I. Safarli, **H. Balci**, L. Dervishi, and M. C. Siper, "Efficient methods and readily customizable libraries for managing complexity of large networks", *PLOS ONE*, 13(5): e0197238, 2018.

H. Balci and U. Gudukbay, "Sun position estimation and tracking for virtual object placement in time-lapse videos", *Signal, Image and Video Processing*, 11(5), pp. 817-824, 2017.

SELECTED PROJECTS

Efficient Layout Algorithms for Compound Graphs With Support for Ports and Constraints 2018-2020
Project that aims to develop various layout algorithms for compound graphs
Supported by The Scientific and Technological Research Council of Turkey

Improvements on Compound Spring Embedder (CoSE) Layout Algorithm   *Summer 2017*
Visual quality and performance improvements in CoSE layout algorithm
As part of Google Summer of Code 2017

Newt Pathway Viewer and Editor   *2016 - Present*
Web based, open source viewer and editor for pathways in Systems Biological
Graphical Notation (SBGN)

An Augmented Reality Environment for Interactive Crowd Simulation   *2012 - 2015*
Project that aims to apply specific scenarios with the virtual crowds in real environments
Supported by The Scientific and Technological Research Council of Turkey

Turkish Sign Language Converter via Microsoft Kinect   *2011 - 2012*
Senior design project that converts the signs in Turkish Sign Language to textual form

TEACHING EXPERIENCE

Teaching Assistant in Bilkent University   *2012 - Present*

CS473 - Algorithms I

CS421 - Computer Networks

CS319 - Object-Oriented Software Engineering

CS202 - Fundamental Structures of Computer Science II

CS201 - Fundamental Structures of Computer Science I

CS102 - Algorithms and Programming II

CS121 - Introduction to Computing for Social Sciences

PROFESSIONAL EXPERIENCE

Summer Intern   *June 2011 - July 2011*
Aselsan, Turkey

Summer Intern   *July 2010 - August 2010*
The Central Bank of the Republic of Turkey, Turkey

AWARDS AND HONORS

Full Graduate Scholarship, PhD, Bilkent University   *2016 - Present*

Graduate Scholarship, The Scientific and Technological Research Council of Turkey   *2012 - 2014*

Full Graduate Scholarship, MS, Bilkent University   *2012 - 2015*

Graduation with High Honor Degree, BS, Computer Engineering, Bilkent University   *2012*

Senior Design Project Innovation Award   *2012*

Full Undergraduate Scholarship, Bilkent University   *2007 - 2012*

SKILLS

Programming Skills	Javascript, C++, Java, HTML, CSS, Matlab, Cypher, SQL
Libraries and Tools	Cytoscape.js, Node.js, Git, jQuery, OpenGL, Unity
Operating Systems	Linux, Windows
Databases	Neo4j, MySQL
Languages	Turkish (Native), English (Advanced)