

# Hasan Alp Boz

PhD Candidate at Sabanci University  
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## EDUCATION

<b>Doctor of Philosophy (PhD) in Computer Science, Sabanci University</b>	Istanbul, Turkey
Dissertation: Analyzing Large-Scale Human Mobility Data to Address Societal Issues	2019-2023 (expected)
Advisor: Prof. Selim Balcisoy	
<b>Master's Degree in Computer Science, Sabanci University</b>	Istanbul, Turkey
Thesis: A Visual Multivariate Dynamic Egocentric Network Exploration Tool	2017-2019
Advisor: Prof. Selim Balcisoy	
<b>Bachelor's Degree in Computer Science, Sabanci University</b>	Istanbul, Turkey
Thesis: Determining Negative Keywords for Search Engine Based Advertising Campaigns	2013-2017
Advisor: Assoc. Prof. Kemal Kilic	

## RESEARCH INTERESTS

**Human Mobility:** Analyzing patterns of both individual and masses of human mobility to develop data-driven solutions that address societal issues, such as urban planning, amenity accessibility, and healthcare access, with the aim of improving the well-being and resilience of communities.

**Human Behavioral Data Science:** Applied statistics and deep learning methods to model and understand individual and collective behavior using big data.

## RESEARCH EXPERIENCE

<b>Visiting Researcher at MIT Media Lab</b>	Cambridge, MA
Massachusetts Institute of Technology	Sep 2022 - Mar 2023
<ul style="list-style-type: none"><li>Supervised by Prof. Alex 'Sandy' Pentland in the Human Dynamics group. Research on human mobility analysis with an emphasis on informed decision-making and economic insights.</li></ul>	
<b>Research Assistant at BAVLAB</b>	Istanbul, Turkey
Sabanci University	Sep 2017 - Present
<ul style="list-style-type: none"><li>Advised by Prof. Selim Balcisoy. Research on addressing societal issues with human mobility analyses.</li><li>Developed interactive data exploration tools for complex datasets in master's degree studies.</li><li>Led bachelor's and master's degree students in numerous projects.</li></ul>	

## PUBLICATIONS

‡ Equal Contribution

\* Students Mentored

### Articles in Peer Reviewed Journals

- Mohsen Bahrami<sup>‡</sup>, **Hasan Alp Boz**<sup>‡</sup>, Yoshihiko Suhara, Selim Balcisoy, Burcin Bozkaya, Alex Pentland. Predicting merchant future performance using privacy-safe network-based features. **Nature Scientific Reports**. 13 (1), 10073. (2023)
- Ulku Ozturk, **Hasan Alp Boz**, Selim Balcisoy. Visual analytic based ship collision probability modeling for ship navigation safety. **Expert Systems with Applications**. 175, 114755. (2021)
- Gunce Keziban Orman, Nadir Ture, **Hasan Alp Boz**, Selim Balcisoy. Finding proper time intervals for dynamic network extraction. **Journal of Statistical Mechanics: Theory and Experiment**. (3), 033414. (2021)

### Articles under Review

1. **Hasan Alp Boz**, Mohsen Bahrami, Selim Balcisoy, Burcin Bozkaya, Nina Mazar, Aaron Nichols, Alex Pentland. Investigating Neighborhood Adaptability Using Mobility Networks: A Case Study of the COVID-19 Pandemic. under review in *Nature Humanities and Social Sciences Communications*.

#### *Articles in Peer Reviewed Conference Proceedings*

1. **Hasan Alp Boz**, Mohsen Bahrami, Selim Balcisoy, Alex Pentland. Footfall Prediction Using Graph Neural Networks. **Signal Processing and Communications Applications Conference (SIU)**. (2023)
2. **Hasan Alp Boz**, Mert Gurkan, Berrin Yanikoglu. Keystroke Dynamics Based Biometric Identification. **Signal Processing and Communications Applications Conference (SIU)**. (2020)
3. **Hasan Alp Boz**, Mohsen Bahrami, Yoshihiko Suhara, Burcin Bozkaya, Selim Balcisoy. An exploratory visual analytics tool for multivariate dynamic networks. **International EuroVis Workshop on Visual Analytics (EuroVA)**. (2020)
4. Atilla Nalcaci\*, Dilara Girgin\*, Semih Balki\*, Fatih Talah\*, **Hasan Alp Boz**, Selim Balcisoy. Detection of Confirmation and Distinction Biases in Visual Analytics Systems. **International EuroVis Workshop on Trustworthy Visualization (TrustVis)**. (2019)

#### *Book Chapters*

1. Yasin Findik, **Hasan Alp Boz**, Selim Balcisoy. Facilitating Decision-Making with Multimodal Interfaces in Collaborative Analytical Sessions. **Intelligent Scene Modeling and Human-Computer Interaction**. Human-Computer Interaction Series. Springer, Cham. (2021)

#### *Conference Presentations (without proceedings)*

1. **Hasan Alp Boz**, Mohsen Bahrami, Massimiliano Luca, Selim Balcisoy, Alex Pentland. Foot Traffic Prediction Using Graph Neural Networks. **International Conference of Computational Social Science (IC2S2)**. Poster Presentation. (2023)
2. **Hasan Alp Boz**, Mohsen Bahrami, Selim Balcisoy, Burcin Bozkaya, Nina Mazar, Aaron Nichols, Alex Pentland. Neighborhood Resilience and Fragility to the COVID-19 Pandemic from a Mobility Network Perspective. **International Conference of Computational Social Science (IC2S2)**. Oral Presentation (2022)
3. Mert Gurkan, **Hasan Alp Boz**, Alfredo Morales and Selim Balcisoy. A Visual Exploratory Tool for Migration Analysis. **International Conference on Computational Science (ICCS)**. Oral Presentation (2020)
4. Mohsen Bahrami, Yoshihiko Suhara, **Hasan Alp Boz**, Selim Balcisoy, Burcin Bozkaya and Alex Pentland. A Merchant Financial Well-being Prediction Using Network Features. **International Conference of Computational Social Science (IC2S2)**. Oral Presentation (2020)

## **SERVICE**

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**Journal Reviewer:** PLOS ONE

**Conference Reviewer:** International Conference on Cyberworlds (CW) 2023, Computer Graphics International (CGI) 2023, Signal Processing and Communications Applications Conference (SIU) 2022-23

## **TEACHING**

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**Main Instructor: Exploratory Data Analysis & Visualization, DA518 - Sabanci University** 2022

- Created and taught a 7-week course on the basics of exploratory data analysis and visualization for professionals working in the industry.
- Developed all course material including programming tutorials, lecture presentations, and hands-on exercises.

**Head TA: Introduction to Data Science, CS210 - Sabanci University** 6 Semesters

- Created the content of weekly-held problem-solving sessions.
- Managed a team of TAs throughout the semester.

**TA: Computational Approaches to Problem Solving, IF100 - Sabanci University**

4 Semesters

- Held weekly problem-solving sessions in Python, graded exams, and homework.

**Voluntary Tutor: English Courses, Sfax, Tunisia**

2014

- Held daily conversation sessions for primary school students for a period of six weeks.