

# MERT OZER

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## SUMMARY

I am a 5th year Computer Science PhD student in Arizona State University. For the last 7 years of my research career I have been developing novel machine learning algorithms applied to social data and collaborating with social scientists to present novel insights acquired through these machine learning algorithms. Very recently, I have been doing work on uncertainty in machine learning, and political polarization on social media.

## EDUCATION

- **Arizona State University** Tempe, AZ  
*Ph.D., Computer Science (3.97/4.00)* *Jan. 2015 – Aug 2019 (expected)*
  - **Middle East Technical University** Ankara, Turkey  
*M.Sc., Computer Engineering (3.86/4.00)* *Sep. 2012 – Aug. 2014*  
**Thesis:** “Predicting the location and time of mobile phone users by using sequential pattern mining techniques”
  - **Middle East Technical University** Ankara, Turkey  
*B.Sc., Computer Engineering, Honor Student (3.04/4.00)* *Sep. 2006 – Jan. 2012*
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## RESEARCH & PROFESSIONAL EXPERIENCE

- **School of Computing, Informatics, Decision Systems Engineering, ASU** **Tempe, AZ**  
*Research Assistant* *Jan. 2015 - present*
  - o Working on polarization sensitive political word embeddings.
  - o Proposed a novel multi-view non-negative matrix factorization framework for detecting underlying political communities in social media data. (ASONAM’16)
  - o Proposed a novel implicit negative link detection framework for social media platforms where built-in negative interaction is not present. (HT’17)
- **MINDS Research Group, Information Sciences Institute, USC** **Marina del Rey, CA**  
*Visiting Research Assistant* *May 2018 – Aug 2018*
  - o Proposed a shape-based multivariate time series clustering algorithm to understand popularity gain trends of repositories in GitHub (paper under review).
- **Computer Engineering Department, METU** **Ankara, Turkey**  
*Research Assistant* *Sep. 2012 – Aug. 2014*
  - o Worked on a University Industry Collaboration Project with AVEA, one of the largest mobile phone operators in Turkey
  - o Designed a novel sequential pattern mining algorithm to predict next location of mobile phone users. Results appeared in ACM SIGSPATIAL MobiGIS’13, MobiGIS’14, ECML PKDD NFMCP’14 and The Computer.
- **Minder IT Solutions** **Ankara, Turkey**  
*Software Engineer* *Jun. 2011 – May 2012*
  - o Designed Mindolog software aiming to develop an alternative treatment to ADHD with neurofeedback.
  - o Won the Runner-up Best Capstone Project Award among 20 teams in the Middle East Technical University Computer Engineering Department.
- **The McKeown Group, Computer Science, Stanford University** **Stanford, CA**  
*Summer Intern* *June 2010 – July 2010*
  - o Designed an ethernet switch with high level programming language on FPGA board. The aim was to show that it is possible to program an Ethernet switch with a non-assembly programming language.

## SKILLS

- **Graduate Coursework:** Advanced Topics on Social Media Analysis, Natural Language Processing, Statistical Machine Learning, Optimization Algorithms with Engineering Applications, Artificial Intelligence, Data Visualization, Semantic Web Mining, Game Theory, Data Mining, Numerical Analysis, Parallel Computing.
- **Programming Languages & Tools:** *Fluent in* Matlab, Python (numpy, scikit-learn, tensorflow, pyspark), Java, Apache Hadoop, Apache Spark, and *Familiar with* Tableau, Gurobi, C++, Javascript, CSS, d3.js
- **NoSQL and Relational Databases:** Apache Cassandra, PostgreSQL
- **Operating Systems:** Linux / UNIX Distributions, Microsoft Windows, Virtualization

## CONFERENCE PROCEEDINGS

1. **Ozer, M.**, Johal, T, Davulcu H., Measuring the Impact of Bot Accounts on Political Polarization in Social Media. 2019 *Work in Progress*.
2. **Ozer, M.**, Sapienza A., Abeliuk, A., Muric G., Ferrara E., Discovering Patterns of Online Popularity from Time Series. 2018 *Under Review*
3. Salehi, A., **Ozer, M.**, Davulcu, H.: Sentiment-driven Community Profiling and Detection on Social Media. ACM HT'18.
4. Alzahrani, S., Kim, N., **Ozer, M.**, Ruston, S.W., Schlachter, J., Corman, S.R.: Framing Shifts of the Ukraine Conflict in pro-Russian News Media. SBP-BRIMS'18.
5. Yildirim, M.Y., **Ozer, M.**, Davulcu, H.: Cost-Sensitive Decision Making for Online Fraud Management. In the Proceedings of 2018 Artificial Intelligence Applications and Innovations. AIAI'18
6. **Ozer, M.**, Yildirim, M.Y., Davulcu, H.: Negative Link Prediction and its Applications in Online Political Networks. ACM HT'17..
7. **Ozer, M.**, Kim, N., Davulcu, H.: Community Detection in Political Twitter Networks using Nonnegative Matrix Factorization Methods. IEEE/ACM ASONAM'16.
8. Aktunc, R., **Ozer, M.**, Toroslu, I.H., Davulcu, H.: A Dynamic Modularity Based Community Detection Algorithm for Large-scale Networks. IEEE/ACM ASONAM'15.
9. **Ozer, M.**, Keles I., Toroslu, I.H., Karagoz, P.: Predicting the Next Location Change and Time of Change for Mobile Phone Users. ACM SIGSPATIAL Workshop, MobiGIS '14.
10. Keles I., **Ozer, M.**, Toroslu, I.H., Karagoz, P.: Location Prediction of Mobile Phone Users using Apriori-based Sequence Mining with Multiple Support Thresholds. ECML PKDD Workshop, NFMCP'14.
11. **Ozer, M.**, Keles I., Toroslu, I.H., Karagoz, P.: Predicting the change of location of mobile phone users. ACM SIGSPATIAL Workshop, MobiGIS '13.

## JOURNAL ARTICLES

1. **Ozer, M.**, Yildirim, M.Y., Davulcu, H.: Implicit negative link detection on online political networks via matrix tri-factorizations. *New Review of Hypermedia and Multimedia*, (2018)
2. Koc, S.S., **Ozer, M.**, Toroslu, I.H., Davulcu, H., Jordan, J.: Triadic Co-Clustering of Users, Issues and Sentiments in Political Tweets. *Expert Systems with Applications*. Volume 100, pp 79-94. (2018)
3. **Ozer, M.**, Keles I., Toroslu, I.H., Karagoz, P., Davulcu, H.: Predicting the location and Time of Mobile Phone Users by Using Sequential Pattern Mining Techniques. *The Computer Journal*. (2015)

## OTHER TALKS

- **Mert Ozer**, An Investigation of Two Online Political Misinformation Campaigns from Canada and Iran. The 2018 APSA Political Networks Section 11th Annual Political Networks Conference and Workshop (PolNet 2018)
- **Mert Ozer**, Three Facets of Online Political Networks: Communities, Antagonisms, and Controversial Issues. ACM HT Workshop, SIDEWAYS'17.
- Tarnjit Johal, **Mert Ozer**, Deliberative democracy or agonism? An exploration of the role of Twitter in political discourse. *Data Power* 2017.

## AWARDS & HONOURS

- The Wilkes Award Shortlist in *The Computer Journal*  
[https://academic.oup.com/comjnl/pages/wilkes\\_award\\_shortlist](https://academic.oup.com/comjnl/pages/wilkes_award_shortlist)
- Honors Student, Middle East Technical University, Computer Engineering Undergraduate Program

- 2nd Best Capstone Project Award, Middle East Technical University, Computer Engineering.
  - Top %0.1 ranked in National University Entrance Exam of Turkey among 1.5 million candidates.
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## **MEDIA COVERAGE**

- “Researchers From Arizona State University Take The War Online Back To ISIS”, TechCrunch, <https://techcrunch.com/2015/09/27/researchers-from-arizona-state-university-take-the-war-online-back-to-isis/>
  - “Through the looking glass: Harnessing big data to respond to violent extremism”, DevEx, <https://www.devex.com/news/through-the-looking-glass-harnessing-big-data-to-respond-to-violent-extremism-88503>
  - “Sifting big mobile phone data predicts your next move”, ScienceNode, <https://sciencenode.org/feature/sifting-big-mobile-phone-data-predicts-your-next-move.php>
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## **EXTERNAL REVIEWING & OTHER SERVICE**

- Data Mining and Knowledge Discovery
  - PLoS One
  - IEEE Transactions on Emerging Topics in Computing
  - Vice President of the Turkish Student Association in Arizona State University
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## **REFERENCES**

Available Upon Request