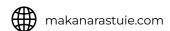
# MAKAN ARASTUIF



makan.arastuie@gmail.com





#### **EDUCATION**

Jan. 2018 – Aug. 2020

**MSE, Computer Science & Engineering** 

@ University of Toledo

Toledo, OH

o GPA: 4.0 / 4.0 | Advisor: Dr. Kevin S. Xu

o Research focus: Machine Learning & Social Network Analysis

o Thesis: Generative Models of Link Formation and Community Detection in Continuous-time Dynamic Networks

Aug. 2013 - Dec. 2017 | BSc, Computer Science & Engineering

@ University of Toledo

Toledo, OH

o GPA: 3.91 / 4.0 | Minor in Mathematics | Summa Cum Laude | Tau Beta Pi, ACM, IEEE

## PROFESSIONAL EXPERIENCES

## **Industry**

Jan. 2022 – Present | Sr. Machine Learning Engineer

@ Seagate (Seagate Research Group)

Aug. 2020 – Jan. 2022 | Machine Learning Engineer II

Jan. 2020 – July 2020

**Data Science and Machine Learning Intern** 

- Longmont, CO o Utilizing ML to enhance the design and development of higher capacity hard drives
  - o Designed a transformer-based surrogate model for drive media simulation to discover novel designs, resulting in a 9% improvement in our target magnetic property through active learning
  - o Developed a self-supervised generative model to optimize hard drive calibration processes, resulting in a 33% reduction of test time (~2hrs) while maintaining accuracy
  - o Trained industry-specific language models and utilized them in downstream natural language processing tasks such as summarization, information retrieval, and sentiment analysis
  - o Mentoring and managing interns on diverse machine learning projects
  - o Technologies: Python, PyTorch, Docker, AWS, DVC, SQL

Aug. 2015 – Dec. 2017 | Student Software Developer

@ University of Toledo (Simulation & Gaming Studio)

- Toledo, OH
- o Collaborated with Twine.it and improved their RESTful APIs average response time by ~30%
- o Developed an online educational game to simulate disaster scenes for emergency responders
- o Technologies: C#, C++, JavaScript, SQL, HTML, CSS, Azure, REST API

Jan. 2015 – May 2015 | Software Developer Intern

@ Diebold Nixdorf

- Canton, OH
- o Improved ATM's front-end UX and UI which reduced withdraw transaction time by about 40%
- o Upgraded ATM's massaging simulator to keep it compatible with new back-end updates
- Technologies: C#, JavaScript, RabbitMQ, HTML, CSS

#### Research

Jan. 2018 - Dec. 2019 | Graduate Research Assistant

@ IDEAS Lab (Univ. of Toledo EECS Dept.)

May 2016 - Dec. 2017 Undergraduate Research Assistant

- Toledo, OH o Proposed a generative model for continuous-time networks of relational events with scalable and consistent estimators (pub. [1])
  - o Developed a Python package (DyNetworkX) for the study of dynamic networks (pub. [3])

- o Designed a machine learning post-processing technique to improve prediction accuracy of human activity, using smartphone sensor data (publications [4])
- o Analyzed the impacts of local subgraphs on future interactions in social networks (pub. [2])
- o Technologies: Python, TensorFlow, PyTorch

## **Teaching**

### 2018 – 2019 | Teaching Assistant

@ University of Toledo

Toledo, OH

- EECS 1510, Object Oriented Programming Spring 2018
- o EECS 3100, Embedded Systems Summer 2018
- EECS 1100, Digital Logic Design Fall 2018 & Spring 2019

#### **PUBLICATIONS**

#### First author

[1] M Arastuie, S Paul, and K Xu. "CHIP: A Hawkes Process Model for Continuous-time Networks 2020 with Scalable and Consistent Estimation" NeurIPS [view paper]

[2] M Arastuie and K Xu. "Personalized Degrees: Effects on Link Formation in Dynamic Networks 2019 from an Egocentric Perspective" Companion Proceedings of The Web Conference [view paper]

#### Co-author

[3] T Hilsabeck, M Arastuie, and K Xu. "A hybrid adjacency and time-based data structure for 2022 analysis of temporal networks" Applied Network Science (Journal) [view paper]

[4] M Sloma, M Arastuie, and K Xu. "Activity Recognition by Classification with Time Stabilization 2018 for the SHL Recognition Challenge" Proceedings of UbiComp [view paper]

## PROFESSIONAL SERVICES

Program Committee: SocInfo (2020, 2022)

Reviewer: The Web Conference (WWW) (2019, 2020, 2021) - SocInfo (2019, 2020, 2022) IEEE Transactions on Computational Social Systems (2021) – IEEE BigData (2020) Journal of Data Science and Analytics (2020, 2021) - Journal of Complex Networks (2019)

#### **PROJECTS**

Feb. 2018 - Present

#### Founding Contributor of DyNetworkX - IDEAS Lab

An open-source Python package for the analysis of discrete & continuous-time dynamic networks

o Documentation & source code: dynetworkx.readthedocs.io

### Jan. 2016 – July 2016 | Connected UT – Solo Project

A website for University of Toledo's students to sell/buy textbooks, with extended search options

o Source code: github.com/makan-ar/connected-ut

#### **AWARDS**

2018 Dean's Assistantship @ University of Toledo

Full-ride scholarship awarded to one incoming master's student in the College of Engineering

2017 Undergraduate Summer Research grant

@ University of Toledo

2013 International Student Scholarship

@ University of Toledo