MAKAN ARASTUIE

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EDUCATION

Jan. 2018 – Aug. 2020 Toledo, OH	**MSE, Computer Science & Engineering** @ **University of Toledo** o GPA: 4.00 / 4.00 | Advisor: 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 Toledo, OH	**BSc, Computer Science & Engineering** @ **University of Toledo** o GPA: 3.91 / 4.00 | Minor in Mathematics | Honors: Summa cum laude | Tau Beta Pi, ACM, IEEE

PUBLICATIONS

2020	[1] M Arastuie, S Paul, and K Xu. "CHIP: A Hawkes Process Model for Continuous-time Networks with Scalable and Consistent Estimation" **NeurIPS** *(link to paper)*
2019	[2] M Arastuie and K Xu. "Personalized Degrees: Effects on Link Formation in Dynamic Networks from an Egocentric Perspective" **Companion Proceedings of The Web Conference (WWW)** *(link to paper)*
2019	[3] M Sloma, M Arastuie, and K Xu. "Effects of Activity Recognition Window Size and Time Stabilization in the SHL Recognition Challenge'' **Human Activity Sensing, Springer** *(link to paper)*
2018	[4] M Sloma, M Arastuie, and Kevin S. Xu. "Activity Recognition by Classification with Time Stabilization for the SHL Recognition Challenge" **Proceedings of UbiComp** *(link to paper)*

PROFESSIONAL EXPERIENCES

Industry

Jan. 2022 – Present Aug. 2020 – Jan. 2022 Jan. 2020 – July 2020 Longmont, CO	*Sr. Machine Learning Engineer* @ **Seagate** *Machine Learning Engineer II* *Data Science and Machine Learning Intern* o Reduced hard drive calibration time by about 50% (3hr) by modeling historical calibration settings using deep unsupervised learning and statistical modeling o Collected an industry-specific corpus (~2B tokens) by gathering & cleaning >7M docs from 12 sources o Trained several industry-specific language models and utilized them in various downstream natural language processing tasks such as summarization, information retrieval, and sentiment analysis o Mentored and managed 10 interns on diverse machine learning projects o **Technologies:** Python, PyTorch, SQL, Docker, AWS, DVC, Flask
Aug. 2015 – Dec. 2017 Toledo, OH	*Student Software Developer* @ **University of Toledo** (Simulation & Gaming Studio) o Collaborated with Twine.it and improved their RESTful API's average response time by about 30% o Developed an online educational game to simulate disaster scenes for emergency responders o **Technologies:** C#, C++, JavaScript, SQL, HTML, CSS, Azure, REST
Jan. 2015 – May 2015 Canton, OH	*Software Developer Intern* @ **Diebold Nixdorf** 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 o **Technologies:** C#, JavaScript, RabbitMQ, HTML, CSS, Object oriented programming

Research

Jan. 2018 – Dec. 2019 May 2016 – Dec. 2017 Toledo, OH	*Graduate Research Assistant* @ **IDEAS Lab** (Univ. of Toledo EECS Dept.) *Undergraduate Research Assistant*

- Proposed a generative model for continuous-time networks of relational events with scalable and consistent estimators *(publication [1])*
- Developed a Python package for the study of dynamic networks (*link to documentation*)
- Designed a machine learning post-processing technique to improve prediction accuracy of human activity, using smartphone sensor data *(publications [3, 4])*
- Analyzed the impacts of local neighborhoods on predicting future interactions among people in social networks *(publication [2])*
- **Technologies:** Python, TensorFlow, PyTorch

Teaching

2018 – 2019
Toledo, OH

Teaching Assistant   @ University of Toledo
- **EECS 1510**, *Object Oriented Programming*, Spring 2018
- **EECS 3100**, *Embedded Systems*, Summer 2018
- **EECS 1100**, *Digital Logic Design*, Fall 2018 – Spring 2019

PROFESSIONAL SERVICES

2020

Program Committee: SocInfo (2020)

2018 – 2021

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

PROJECTS

Feb. 2018 – Present

Founding Contributor of DyNetworkX – IDEAS Lab
An open-source Python package for the analysis of discrete- and continuous-time dynamic networks
- Documentation & source code: dynetworkx.readthedocs.io

Jan. 2016 – July 2016

Connected UT – Solo Project
A website for the University of Toledo's students to sell/buy textbooks, with extended search options
- Source code: github.com/makan-ar/connected-ut

AWARDS

2018

Dean's Assistantship   @ University of Toledo
Awarded once a year to one incoming master's student in the College of Engineering

2017
2013

Undergraduate Summer Research grant   @ University of Toledo
International Student Scholarship   @ University of Toledo

RELEVANT COURSEWORK

Natural Language Processing Specialization (Coursera MOOCs)
Deep Unsupervised Learning (Open access course by UC Berkeley / in progress)
Deep Learning Specialization (Coursera MOOCs) | Probabilistic Methods in Data Science
Machine Learning | Social and Information Networks | Artificial Intelligence
Data Learning | Linear Statistical Models | Statistical Computing