

Sina Rashidian

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RESEARCH EXPERTISE

- ◇ Machine Learning and Deep Learning
- ◇ Data Science
- ◇ Big Data Analysis

EDUCATION

- ◇ **Stony Brook University**, New York, USA 2015 - present
Ph.D. candidate in Computer Science. Supervisor: *Prof. Fusheng Wang*
GPA: 3.83 / 4
Selected Courses: Analysis of Algorithms, Machine Learning, Artificial Intelligence, Theory of Database Systems, Asynchronous Systems.
- ◇ **Sharif University of Technology**, Tehran, Iran 2010 - 2015
B.S. in Computer Engineering, Software Major. Supervisor: *Prof. Jafar Habibi*
Thesis: Influence of Genetic Algorithm in Detection and Comparison of Social Networks
GPA: 17.17 / 20

PUBLICATIONS

- ◇ **Disease phenotyping using deep learning: A diabetes case study**
Sina Rashidian, Janos Hajagos, Richard A. Moffitt, Fusheng Wang, Xinyu Dong, Kayley Abell-Hart, Kimberly M. Noel, Rajarsi R. Gupta, Mathew A. Tharakan, Joel H. Saltz, Mary M. Saltz. To appear in *Machine Learning for Health (ML4H) Workshop at NeurIPS (NIPS) 2018*. December 8, 2018, Montreal, Canada.
- ◇ **Deep Learning on Electronic Health Records to Improve Disease Coding Accuracy**
Sina Rashidian, Janos Hajagos, Richard A. Moffitt, Fusheng Wang, Kimberly M. Noel, Rajarsi R. Gupta, Mathew A. Tharakan, Joel H. Saltz, Mary M. Saltz. To appear in *AMIA 2019 Informatics Summit*. March 25 - 28, 2019, San Francisco, California, USA.
- ◇ **EaserGeocoder: Integrative Geocoding with Machine Learning**
Sina Rashidian, Xinyu Dong, Shubham Kumar Jain and Fusheng Wang. To appear in *Proceedings of the 26th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*. November 6 - 9, 2018, Seattle, Washington, USA.
- ◇ **Effective Scalable and Integrative Geocoding for Massive Address Datasets**
Sina Rashidian, Xinyu Dong, Amogh Avadhani, Prachi Poddar and Fusheng Wang. In *Proceedings of the 25th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*. November 7 - 10, 2017, Redondo Beach, California, USA.
- ◇ **Noise-Tolerant Model Selection and Parameter Estimation for Complex Networks**
Sadegh Aliakbary, Sadegh Motallebi, Sina Rashidian, Jafar Habibi, and Ali Movaghar. In *Physica A: Statistical Mechanics and its Applications Volume 427*, 1 June 2015, Pages 100112.
- ◇ **Distance Metric Learning for Complex Networks: Towards Size-Independent Comparison of Network Structures**
Sadegh Aliakbary, Sadegh Motallebi, Sina Rashidian, Jafar Habibi, and Ali Movaghar. In *Chaos: An Interdisciplinary Journal of Nonlinear Science Volume 25*, Number 2, 2015.

AWARDS AND HONORS

- ◇ **Finalist** at 3rd annual Mount Sinai Health Hackathon, team *EyeCanDo*. 2018
- ◇ Student **Travel Awards**: SigSpatial 17, SigSpatial 18.
- ◇ Ranked **15th** in the *ACM ICPC Greater New York Region*, NY, US. 2015
- ◇ **Special CS Department Chair Fellowship**. 2015
- ◇ Ranked **44th** in Iran National University master entrance exam among 10K participants. 2015
- ◇ Ranked **219th** in Iran National University bachelor entrance exam among 400K participants. 2010

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| RESEARCH EXPERIENCE | <ul style="list-style-type: none"> ◇ Research Assistant, BMI DB Lab, Stony Brook University. August 2016 - present <ul style="list-style-type: none"> Improving Disease Coding Accuracy by using Deep Learning on Electronic Health Records Programming languages/frameworks: Python, Scikit-learn, Numpy, Pandas, Keras, TensorFlow. In EHR data, for a variety of reasons some diseases may left undocumented or wrongly assigned to patients who do not have them. We tackled this problem to assign diagnosis codes automatically based on patients demographic information, lab results, medications and background with a Deep Learning approach. In this project, our team consist of Computer Scientists, Biomedical Informatics experts and physicians. This ongoing research, resulted into one conference paper submission. Trends and Patterns in Opioid Epidemic Programming languages/frameworks: Postgresql, Python. In this public health study, based on recent Opioid epidemic that got huge media coverage, we decided to perform an elaborate analysis in New York state to find patterns and trends in different age groups, races, and zip code level distribution. This ongoing research study resulted into one journal paper submission. EaserGeocoder: An Integrative Geocoder based on Machine Learning Programming languages/frameworks: Java, Apache Solr, SolrJ, Java Spring. The first motivation of this work was to provide offline geocoding capability for research studies with private and sensitive data. By introducing a novel geocoding system we overcame lack of offline working geocoder which is free, robust to noise and capable of geocoding high volume of data in short period of time. In summary, we gathered multiple free sources and used machine learning algorithms to achieve high precision and accuracy through an integrative approach. This research resulted in two conference papers, and an open-source application. ◇ Undergrad Researcher, Sharif University of Technology. July 2013 - June 2015 <ul style="list-style-type: none"> Distance Metric Learning and Model Classification in Complex Networks Programming languages/frameworks: Java. We proposed a novel and intelligent method for complex networks comparisons. This method is independent of graph size and we demonstrate this robust to noise distance metric, is beneficial for classification purposes. I was involved in designing and implementing the algorithms. This research results in two journal papers. <hr/> |
| WORK EXPERIENCE | <ul style="list-style-type: none"> ◇ Software Developer Intern at Opensource Information and Communications Technology Co.Ltd, Tehran, Iran. Jan 2015 - April 2015 I worked as the Java software developer in Multi-Technology Network Management project. In this project, we aimed to design a higher level application for managing network management systems from different vendors. <hr/> |
| TEACHING ASSISTANT | <ul style="list-style-type: none"> ◇ At Stony Brook University: · Computer Science I, Instructors: K. McDonnell, M. Tashbook. Fall 2015 & Spring 2016 ◇ At Sharif University of Technology: · Programming Languages, Instructor: M. Izadi. Fall 2014 · Operating Systems (2 sections), Instructors: H. Asadi, H. Beigi. Fall 2014 · Computer Simulation, Instructor: M. Zangooyi. Spring 2014 · Digital System Design, Instructor: M. Goudarzi. Fall 2013 · Computer Architecture, Instructor: H. Asadi. Spring 2013 · Computer Structure and Language, Instructor: H. Asadi. Fall 2012 & Spring 2012 · Introduction to Programming, Instructor: F. Zamani. Spring 2012 <hr/> |
| RELEVANT SKILLS | <ul style="list-style-type: none"> ◇ Programming Languages/Frameworks: · Expert: Java, Python, Keras. · Intermediate: C++, MATLAB, Hadoop, SQL, Tensorflow. <hr/> |
| ACTIVITIES | <ul style="list-style-type: none"> ◇ Reviewer: SigSpatial 17, SigSpatial 18, AMIA Summit 19. ◇ Presenter in Data Management Reading Group. 2016 - present ◇ Member of Scientific Committee of Java Challenge, Tehran, Iran. 2012 ◇ Technical Staff of Asia Regional ACM-ICPC Contest, Tehran, Iran. 2012 <hr/> |
| LANGUAGES | <ul style="list-style-type: none"> ◇ English, Fluent. ◇ Persian, Native. |