# AMIR YAZDAVAR

**Ph.D. Candidate in Computer Science**

***US Permanent Resident,***

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## EXPERIENCE

### Research Scientist Intern:

**Bosch Research**

2020- Summer  Sunnyvale, US

*Keywords: Knowledge based construction/management. Developing techniques of data collection, refinement, validation, and alignment for Conversation Understanding and Personalized Dialogue.*

### Visiting Research Scientist:

**Weill Cornell Medicine, Cornell University**

2019-Summer  New York, US

*Keywords: AI for goods, Deep Learning for Health, Data Science, NLP, ML/Deep learning, EHR, Decision Making, Precision Medicine, Clinical Depression, CDRN, SQL*

- This study applied a retrospective case-control study design on data from the New York City Clinical Data Research Network (NYC-CDRN), a data repository containing longitudinal clinical data elements from over 10 million patients across 22 healthcare partners in NYC, including Columbia University, Montefiore Medical Center, Mount Sinai Health System, New York University Langone Medical Center, NewYork-Presbyterian, Weill Cornell Medical College, and the Clinical Directors Network that entered locally into the individual site's Electronic Health Record (EHR).
- Predicting incident psychiatric hospitalization among patients with recent mental illness

### Research Scientist Intern:

**National Institute of Health(NIH), National Library of Medicine (NLM)**

2018-Summer  Maryland, US

*Keywords: NLP, Knowledge Representation, Deep Learning, Sequence Labeling, Contextual Ontology Alignment, Medical Concept Embedding, Pharmacovigilance, adverse drug reactions (ADRs)*

- Research and develop an algorithm for representing FDA approved Knowledge Base (MedDRA) and MESH ontology in the same vector space model while enriching MESH concepts with contextual data (Medline) to facilitate interoperability.

### Data Scientist Intern:

**Information Sciences Institute (ISI), USC**

2017-Summer  California, US

*Keywords: Machine Learning, User Embedding, Data science, NLP, Regression, Darknet, Data Visualization, Cyberattacks Prediction with Darknet*

- Research/develop a platform to find traces of early planning activity by malicious actors, from unconventional sources such dark web and social media sites, forum discussions unstructured natural language text and generate warnings of pending cyberattacks.

## SKILLS

**Programming:PYTHON(NumPy, SciPy, SciKit-Learn, Pandas, Gensim),R (Ggplot, Caret), JAVA** ●●●●●

**Deep Learning: Pytorch, Keras** ●●●●●

**Natural language Processing & Medical Informatics: LIWC, NLTK, Spacy, Gensim, GATE, Lucene, UMLS, MetaMap** ●●●●●

**Machine Learning Algorithms: Support Vector Machine, Logistic Regression, Neural Network, Random Forest, XGBoost, Topic Modeling** ●●●●●

**Scalable Computing: Map-Reduce, Pig, Hadoop, Spark, AWS** ●●●●○

**Semantic Technologies: RDF, OWL, SPARQL** ●●●●○

## HONORS & AWARDS

- Travel Grant ICHI conference, 2018
- Weill Cornell Medicine Doctoral Consortium NSF Grant
- Ranked 2nd place among all M.Sc. students of Computer Science, 2013

## ACTIVITIES & SERVICES

- Organizing session titled "Current and Future Trends of Knowledge Graph Representation and Reasoning" in 3rd U.S. Semantic Technologies Symposium 2020 @Raleigh, NC
- Present a *Tutorial* titled "Location Extraction and Georeferencing in Social Media" in ISCRAM 2018 @ Rochester,NY
- Program Committee – BioNLP, ACL 2019, AMIA 2019, Grace Hopper 2018
- External Reviewer – WWW 2018, ICWSM 2018, ICWSM 2016, IEEE Big Data 2016, WWW 2017, IEEE BigData 2017, International Conference on Applications of Natural Language to Information Systems, NLDB 2016
- Recognized Reviewer, Applied Soft Computing (2014-present)

# PROJECTS/PUBLICATIONS

### AI for Social Good

- Fusing Visual, Textual and Connectivity Clues for Studying Mental Health in Population
  *Keywords*: Computational Social Science, Multi-modal Analysis, ML, NLP, Statistical analysis, Mental Health, Regression, ANOVA, Correlation, Hypothesis Testing, Image processing, Facial Analysis,(PLOS ONE 2020)
- Contextual Tensor Fusion Model for Multimodal Mental Health Analysis.
  *Keywords*: Graph Convolutions Neural network, Multi-modal Analysis, Contextual Embedding, Deep Neural Network, Computational Social Science, Statistical analysis, Social Network Analysis
- Geography of depression: Where in U.S. people are showing depressive behavior?
  *Keywords*: Graph Convolutional Neural Network, Language Modeling, Text classification, Location inference, Correlation analysis, Big data, Elastic Search
- Semi-supervised approach to monitoring clinical depressive symptoms in social media (ASONAM 2017)
  *Keywords*: Semi-supervised machine learning, Topic Modeling, Lexicon-based approach, Multi-label classification, Generative Models, Temporal Social Media Analysis

### Twitris 3.0- Sentiment Analysis for Analyzing Presidential Election

- Challenges of sentiment analysis for dynamic events. Develop state-of-the-art deep /machine learning to monitor/study user's sentiment during US 2016 presidential election.

# PAST PROJECTS

- Relatedness-based Multi-Entity Summarization (IJCAI 2017). Kalpa Gunaratna, **Amir Hossein Yazdavar**, Krishnaprasad Thirunarayan, Amit Sheth, Gong Cheng, *Acceptance Rate:* 26.0%
- Fuzzy Based Implicit Sentiment Analysis on Quantitative Sentences, **Amir Hossein Yazdavar**, Monireh Ebrahimi, Naomie Salim, Journal of Soft Computing and Decision Support Systems.
- Recognition of Side Effects as Implicit-Opinion Words in Drug Reviews, Monireh Ebrahimi, **Amir Hossein Yazdavar**, Naomie Salim, Safaa Eltyeb, Online Information Review, IF: 1.15.
- Rock strength estimation: a PSO-based BP approach, E. Tonnizam Mohamad, D. Jahed Armaghani, E. Momeni, **Amir Hossein Yazdavar**, Monireh Ebrahimi, Journal of Neural Computing and Applications, IF: 1.49.
- Analytical Modeling and Simulation of IV Characteristics in Carbon Nano tube based Gas Sensors using ANN and SVR Methods, Elnaz Akbari, Zolka- fle Buntat, Aria Enze- vaee, Monireh Ebrahimi, **Amir Hossein Yazdavar**, Rubiyah Yusof, Chemometrics and Intelligent Laboratory Systems, IF: 2.32.
- Transmission of Data with OFDM Technique for Communication Networks Using GHz Frequency Band Soliton Carrier, Iraj Sadegh Amiri, Monireh Ebrahimi, **Amir Hossein Yazdavar**, S. Ghorbani, S. E. Alavi, Sevia M. Idrus , J. Ali, IET Communications Journal(IEEE), IF: 0.74.

# EDUCATION

## Ph.D., Computer Science

**Kansas State University**

May 2015 – Present

## M.Sc., Computer Science

**University Technology Malaysia (UTM)**

Jan 2012 – Dec 2013

## B.E, Computer Engineering (Software)

**Shiraz University, Faculty of Computer and Electrical Engineering**

Jan 2006 – Jan 2011

# MENTORING

- *Mohammad Saeid Mahdavinejad* (Master with Thesis, Now Ph.D. candidate in Computer Science, *Isfahan University*) for a project Analyzing user's demographic on Twitter, 2016
- *Goonmeet Bajaj* (Undergrad Senior, Now Ph.D. candidate in Computer Science, *Ohio State University*) for a project on Measuring Gender-Based Violence Attitude on Twitter,2016

# INVITED TALKS

- 2018: Harnessing Social Signals for Studying Mental Health in Population, National Library of Medicines (NLM Lecture series)
- 2017: Understanding clinical depressive symptoms in social media (NLP seminar/Information science Institute-ISI)

# GRANT WRITING

- Explaining How Background Knowledge Improves Deep Learning, 2019
- NIH R01 Social determinant of Health NIMH R01 Renewal, *Significant Contribution*, 2019
- NIH R01 Supplementary on Modeling Social Behavior Depression, Awarded, Role: Significant Contribution, 2018
- *Significant Contribution* to prestigious FRGS grant awarded from Malaysia government for Implicit Opinion Mining Model for Drug Effectiveness and Side Effect Recognition in Medical Reviews.(Vote no: R.J130000.7828.4F373, RM81000), 2013

# SELECTED COURSE

- Deep Learning, Advanced Artificial Intelligence, Machine Learning, Statistical analysis
- Advanced Network Science, Semantic Web
- Cloud Computing, Database Systems
- Advanced Algorithm Design, Proposal Writing

# REFERENCES

Will be provided upon request.