Payam Siyari

Data Scientist II, Uber Advanced Technologies Group

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AREAS OF INTEREST

Data Science & Machine Learning

Natural Language Processing

Graph & Sequence Mining

Recommender Systems

SOFTWARE PROJECTS

Lexis

- Sequential pattern mining

- Network analysis

- Feature extraction

GSGP

- Unsupervised parsing in NLP

- Compression

Evo-Lexis

- Complex Network Analysis

Sign Language Recognition

- Deep Learning (3D CNN)

- Spatio-Temporal Feature Learning

MLNetwork

- Mining of multilayer networks

SLPMF

- Recommender Systems (NMF)

- Link Prediction in Networks

VPN in Touch

- VPN Management Client (iOS)

SOFTWARE PROJECTS

Python, Java, C++, Swift

MATLAB, OpenMPI, R

Theano, PyTorch, Caffe, Tensorflow

Keras, Scikit-Learn, Pandas, NLTK

Hadoop, Pig, Spark

SQLite, PostgreSQL, MySQL

DASH, Django, D3

EDUCATION

PhD, Computer Science (*Minor in Statistics*) **2014 - 2018**
College of Computing, Georgia Institute of Technology Atlanta, GA, USA
Thesis: *Optimization-driven emergence of deep hierarchies with applications in data mining and evolution*

MSc, Computer Science - Machine Learning (GPA: 4.0/4.0) **2014 - 2016**
College of Computing, Georgia Institute of Technology Atlanta, GA, USA
Coursework: *Machine Learning, Deep Learning for Perception, Natural Language Processing, Data and Visual Analytics, High Performance Computing, Time Series Analysis, Regression*

MSc, Computer Engineering - Software Eng. (GPA: 19.24/20.0) **2011 - 2013**
Department of Computer Eng., Sharif University of Technology Tehran, Iran
Thesis: *Network Topology Inference from Incomplete Data*
Coursework: *Statistical Pattern Recognition, Data Mining, Convex Optimization, Game Theory*

BSc, Computer Science (GPA: 18.46/20.0) **2007 - 2011**
Department of Math Sciences, Shahid Beheshti University Tehran, Iran

PROFESSIONAL EXPERIENCE

Data Scientist II **Uber ATG (San Francisco, CA), 2018 - Present**
- *Data Science Team - @UberEnginnering Showcase:*
  - *Power On: Accelerating Uber's Self-Driving Vehicle Development with Data*

Software Engineering Intern **Uber ATG (Pittsburgh, PA), Fall 2017**
- *Self-Driving Technology Engineer (Road Analytics)*

Research Assistant **GeorgiaTech (Atlanta, GA), 2014 - 2018**
- *Research on Analysis and Modeling of Hierarchical Structures within Big Data*
- *Applications in Sequential Pattern Mining, Feature Extraction & Compression*

Research Intern **Xerox XRCE (Grenoble, France), Fall 2015**
- *Research on MDL-Based Grammatical Inference from Sequential Data*
- *Applications in Compression & Unsupervised Parsing of Natural Language*

Research Assistant **Sharif University (Tehran, Iran) , 2011-2013**
- *Research on Network Inference via NMF and Compressed Sensing*
- *Research on Epidemic Models over Multilayer Networks*

iOS Developer **Pichak co. (Tehran, Iran), 2011**
- *VPN in Touch: A VPN account management app (client side).*

SELECTED PUBLICATIONS

– **P. Siyari**, B. Dilkina, C. Dovrolis, "Evolution of Hierarchical Structure and Reuse in iGEM Synthetic DNA Sequences", International Conference on Computational Science (**ICCS**), 2019.

– **P. Siyari**, B. Dilkina, C. Dovrolis, "Emergence and Evolution of Hierarchical Structure in Complex Systems", Springer Proceedings in Complexity: **Dynamics On and Of Complex Networks** III - Machine Learning and Statistical Physics Approaches, 2018.

– **P. Siyari**, B. Dilkina, C. Dovrolis, "Lexis: An Optimization Framework for Discovering the Hierarchical Structure of Sequential Data", In Proceedings of **ACM SIGKDD** 2016 (Oral Presentation - Acceptance Rate: 8.9%).

– **P. Siyari**, M. Galle´, "The Generalized Smallest Grammar Problem", In Proceedings of International Conference on Grammatical Inference **(ICGI)**, 2016.

– M. Salehi, **P. Siyari**, M. Magnani, D. Montesi, "Multidimensional Epidemic Thresholds in Diffusion Processes over Interdependent Networks", In **Chaos, Solitons & Fractals**, 2015.

– M. Salehi, R. Sharma, M. Marzolla, M. Magnani, **P. Siyari**, D. Montesi, "Spreading Processes in Multilayer Networks", In **IEEE Trans. Network Science and Engineering**, 2015.

– A. Fattaholmanan, H. R. Rabiee, **P. Siyari**, A. Khodadadi, and A. Soltani-Farani, "A Peer to Peer Compressive Sensing Framework for Network Monitoring", In **IEEE Communications Letters**, 2015.

– **P. Siyari**, H. R. Rabiee, M. Salehi, and M. Eslami, "Network Reconstruction under Compressive Sensing", In Proc. **ASE/IEEE International Conference on Social Informatics**, Dec. 2012.