

Payam Siyari

Sr. Data Scientist, Uber Advanced Technologies Group

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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 w. applications in data mining & 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: 19.24/20.00)** **2011 - 2013**
Dep. of Computer Engineering, 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: 18.46/20.00)** **2007 - 2011**
Dep. of Mathematical Sciences, Shahid Beheshti University Tehran, Iran

PROFESSIONAL EXPERIENCE

- **Senior Data Scientist** **Uber ATG (San Francisco, CA), 2020 - Present**
- **Data Scientist II** **2018 - 2019**
 - Full-Stack Data Scientist
 - Deep Learning: GeoSpatial representation learning, involving CNNs on satellite image data, RNNs on temporal trip data and GNNs on road networks.
 - Data Structures and Algorithms: GeoSpatial joins and indexing, including Uber UMM, Uber H3, S2 Geometry.
 - Data Engineering: Advanced SQL, Relational schema design, BigData pipeline development (Hive, Spark).
 - Statistical Analysis: A/B testing, Utilizing statistical testing for strategic decision making e.g. minimum amount of miles needed for deploying service.
 - Data Visualization, Analytics and Dashboarding: DASH, Bokeh.
 - @UberEnginnering Showcase:
 - [Power On: Accelerating Uber's Self-Driving Vehicle Development with Data](#)
 - [Searchable Ground Truth: Querying Uncommon Scenarios in Self-Driving Car Development](#)
- **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.

AREAS OF INTEREST

Data Science & Machine Learning
Maps and Geospatial Data Science
Natural Language Processing
Graph & Sequence Mining
Recommender Systems

SKILLS

Python, Java, C++, Swift

PyTorch, Tensorflow, Keras,
NLTK, NetworkX, SNAP

Hive, Spark, Pig

SQLite, PostgreSQL, MySQL

MATLAB, OpenMPI, R

React JS, Django, DASH,
Bokeh, D3