

Payam Siyari

Data Scientist II, Uber Advanced Technologies Group

Mailing Address:

Uber Advanced Technologies Group
579 20th Street
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USA

Citizenship:

Iranian (U.S. Permanent Resident)

AREAS OF INTEREST

Data Science & Machine Learning
Maps and Geospatial Data Science
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)

SKILLS

Python, Java, C++, Swift

PyTorch, Tensorflow, Keras,
NLTK, NetwrokX, SNAP

Hive, Spark, Pig

SQLite, PostgreSQL, MySQL

MATLAB, OpenMPI, R

React JS, Django, DASH,
Bokeh, D3

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[linkedin.com/in/payamsiyari](https://www.linkedin.com/in/payamsiyari) 

github.com/payamsiyari 

[goo.gl/4dwxgx](https://scholar.google.com/citations?user=goo.gl/4dwxgx) Google Scholar

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

- Full-Stack Data Scientist

- Data Engineering: Advanced SQL, Relational schema design, BigData pipeline development (Hive, Spark).
- Data Structures and Algorithms: GeoSpatial joins and indexing, including Uber UMM, Uber H3, S2 Geometry.
- Deep Learning: GeoSpatial representation learning, involving CNNs on satellite image data, RNNs on temporal trip data and GNNs on road networks.
- 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.