

## Contact

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[astro.temple.edu/~tua95067](http://astro.temple.edu/~tua95067)  
(Personal)

[www.mihajlogrbovic.com](http://www.mihajlogrbovic.com)  
(Personal)

[www.behance.net/mihajlo](http://www.behance.net/mihajlo) (Other)

## Top Skills

Machine Learning

Data Mining

Algorithms

## Languages

English (Full Professional)

Serbian (Native or Bilingual)

Italian (Limited Working)

## Publications

Learning Vector Quantization with adaptive prototype addition and removal

Tracking Concept Change using Incremental Boosting by Minimization of the Evolving Exponential Loss

A General Noise Resolution Model for Parking Occupancy Sensors

Evolution of Conversations in the Age of Email Overload

A Boosting Method for Process Fault Detection with Detection Delay Reduction and Label Denoising

# Mihajlo Grbovic

Machine Learning and Data Science at Airbnb  
Sunnyvale

## Summary

Mihajlo Grbovic holds a Ph.D in Machine Learning from Temple University in Philadelphia. He has more than 10 years of technical experience in applied Machine Learning, acting as a Science Lead in a portfolio of projects at Yahoo and now at Airbnb. During his time at Yahoo, from 2012 to 2016, he worked on integrating Machine Learning in various Yahoo Products, such as Yahoo Mail, Search, Tumblr & Ads. Some of his biggest accomplishments include building Machine Learning-powered Ad Targeting for Tumblr, being one of the key developers of Email Classification for Yahoo Mail and introducing the next generation of query-ad matching algorithms to Yahoo Search Ads. Dr. Grbovic joined Airbnb in 2016 as a Senior Data Scientist, specializing in Machine Learning. He works mostly on Search & Recommendation problems for Airbnb Homes and Experiences. Most recently, he worked on building out a Machine Learning-powered Search for Airbnb Experiences. Dr. Grbovic published more than 50 peer-reviewed publications at top Machine Learning and Web Science Conferences, and co-authored more than 10 patents. He was awarded the Best Paper Award at KDD 2018 Conference. His work was featured in Wall Street Journal, Scientific American, MIT Technology Review, Popular Science and Market Watch.

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## Experience

Airbnb

Principal Machine Learning Data Scientist

August 2016 - Present (4 years 5 months)

San Francisco Bay Area

Machine Learning and Data Science for Search and Personalization

Yahoo

4 years

Senior Research Manager

March 2016 - August 2016 (6 months)

Sunnyvale

I lead a team of Machine Learning Scientists working on query to ad matching in Sponsored Search Advertising.

Senior Research Scientist

March 2015 - August 2016 (1 year 6 months)

Sunnyvale, CA

Computational Advertising, Ad Targeting, User Modeling, Recommendation Systems, Look-alike modeling, Purchase Prediction

Working on:

- 1) Behavioral targeting of Yahoo users
- 2) Tumblr Monetization and Ad Targeting
- 3) Email Monetization
- 4) Sponsored search query to ad matching

Research Scientist

September 2012 - August 2016 (4 years)

Sunnyvale, CA

Targeting and Personalization, Computational Advertising, Matching on-line advertisements to a particular target audience, Ads targeting, Look-alike modeling

Working on: 1) Large-scale behavioral targeting on 700M Yahoo! users.

Main responsibility: improving performance and scalability of distributed system for targeting users for ads (look-alike modeling, feature selection, feature construction, integrating new data sources), 2) Ad latency (identifying causes of ad latency using Machine Learning), 3) Smart folders - automatic categorization of emails into categories (shopping, travel, financial, etc.)

Akamai Technologies

Research Intern

June 2012 - September 2012 (4 months)

Computational advertising. Ads modeling. Applying machine learning to online advertisement.

PROJECT: Feature Selection for Display Advertising Purchase Prediction

Temple University

5 years

## Research Assistant

September 2007 - August 2012 (5 years)

Philadelphia

Research under Prof. Slobodan Vucetic's supervision, mainly focusing on Memory Constrained Data Mining, Machine Learning application to Fault Detection, Diagnosis and Concept Change in Industrial Systems as well as Preference Learning and Ranking

Research Assistant for Multi agent-based Oil-refinery System Analysis and Intelligent Control project (funded by ExxonMobil)

Research Assistant for NSF Memory Constrained Predictive Data Mining project IIS-0546155

## Teaching Assistant

January 2008 - September 2011 (3 years 9 months)

Teaching Assistant for various courses:

CIS 4329 - Network Architectures (Spring 2008, Fall 2008, Spring 2009, Fall 2011)

CIS 4378 - Intro to Computer and Network Security (Spring 2009)

CIS 4319 - Networks and Communication (Spring 2008, Fall 2008)

## ExxonMobil Research and Engineering

Research Intern

February 2012 - May 2012 (4 months)

Annandale, NJ

Supported by ExxonMobil as an intern working on contributing to the development of an interactive machine learning platform.

Working on clustering and segmentation of large-scale data. Concentrating on applications of Sparse Principal Component Analysis in specialized clustering and segmentation algorithms.

## Xerox Research Centre Europe (XRCE)

Research Scientist Intern

May 2011 - September 2011 (5 months)

Urban transport networks operational data analysis. (Internship focused on understanding demand patterns for on-street parking and working on price learning models for these settings)

Technion - Israel Institute of Technology

Research Scientist Intern

June 2004 - October 2004 (5 months)

Haifa Israel

Research Assistant for “Image Identification using Hashing” project,  
Signal and Image Processing Lab, Department of Electrical Engineering

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## Education

Temple University

PhD, Machine Learning and Data Mining · (2007 - 2012)

Faculty of Technical Sciences, University of Novi Sad

Master, Electrical Engineering (Telecommunications) · (2001 - 2007)