

Boris Gorelik, Ph.D

Data scientist, algorithm developer, lecturer. Solving tough problems since 2001.

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Skills

Programming languages

Python: currently proficient

R, Matlab, C++, Perl: extensive prior experience

Methods and techniques

Machine learning; Anomaly detection; Fraud detection; Social network analysis; Classification and regression; Data visualization; Optimization algorithms; Molecular and Biomathematical modeling.

Experience

May 2014 – Today

Automattic, Inc | WordPress.com

Data scientist

Company's development motto is "data-informed, user-driven". My job is to make this development as much data-informed as possible.

- Anomaly detection in time series.
- Social interactions within the WordPress.com network.
- Developed a spam detection model.
- Developed and implemented churn prediction model.
- Ongoing data analysis support for various internal teams extraction and statistical analysis of behavioural analysis of behavioral data.

Ongoing, part-time

Data visualization and analysis lecturer

Teaching data visualization and data analysis in various institutions: Holon Institute of Technology, Azrieli College of Engineering Jerusalem, Israel Tech Challenge project

Dec 2012 – May 2014

RSA, The Security Division of EMC

Principal Research Scientist, CTO Identity Protection & Verification

- Developed and utilized statistical analysis and measurement methods applied to real-life transaction records of several of top 20 banks.
- Core developer of a new unsupervised method for authentication fraud detection. In this project I co-designed the algorithm, optimized its performance and tested it on tens of millions real-life data points. The algorithm has been shown to provide excellent results with online banks, investment firms and healthcare provider data.

Jun 2012 – Feb 2013

Procognia Ltd

Head of software and bioinformatics

- Direct responsibility for data science aspects of every activity in the company.
- Project management.
- Experiment design and analysis.
- Statistical data analysis.

Jan 2009 – Feb 2013

Senior bioinformatician and data scientist

- Re-implemented and improved company's flagship bioinformatics model in extra-tight time frame.
- Was in charge with company's major machine learning project (supervised learning on noisy data, parameter selection).
- Originated and lead a constrain-based optimization project for integrating real-life data.
- Applied non-supervised learning techniques for data quality tests.

Mar 2007 – Jan 2009

Optimata Ltd

Simulation scientist and PK/PD expert

- Developed novel methods for population modeling.
- Developed stochastic curve fitting and parameter estimation methods for populations.
- Mechanistic and statistical modeling.
- Lead two major projects from design to completion.
- Re-wrote company's Pharmacokinetic/Pharmacodynamic (PK/PD) mathematical models.

2001 – 2007

The Hebrew University of Jerusalem

Molecular docking and optimization algorithms

PhD studies in computational chemistry under the supervision of Prof. A. Goldblum.

- Development of ISE – a general purpose optimization algorithm (implemented in C++).
- Wrote a program for energy driven optimization of 3D structures, that performs better than three world's most cited programs in the field.
- Extensive experience in algorithm development, molecular modeling and dynamics.

Education

Ph.D

The Hebrew University of Jerusalem, 2007

Direct Ph.D in computational chemistry program for excelling students. Advisor: Prof. Amiram Goldblum.

Thesis title: Predicting Protein-Ligand Interactions using Iterative Stochastic Elimination Algorithm

B.Pharm

The Hebrew University of Jerusalem, 2001