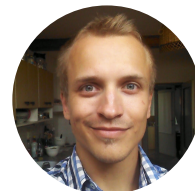


# GUSTAV ŠÍR

## AI & ML Researcher

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## EXPERIENCE

### SWE Intern

#### Google

Jun 2017 - Oct 2017    Zürich, Switzerland

- Development of novel deep learning models for Internet shopping
- Part of a wider cooperation project between Google DeepMind and Shopping
- Technologies: TensorFlow, Python, C++, MapReduce, Go

### Research Intern

#### IBM Research

Aug 2014 - Nov 2014    Haifa/Tel-Aviv, Israel

- PoC for extending the Watson Q&A system towards non-factoid questions
- "Great Minds" program in the Machine Learning Technologies laboratory
- Technologies: Java, Matlab, Python

### Visiting Researcher

#### University of York

Jun 2016 - Jul 2016    York, England

- Logic-based neural learning directed towards NLP & KBC applications
- Technologies: Java, Python

### Researcher

#### Czech Technical University

Sep 2013 - Present    Prague , Czech Rep.

- Developing novel machine learning algorithms for relational data domains
- e.g., network security, chemistry, biology, NLP and sports analytics
- Member of the Intelligent Data Analysis research group

### Junior Analyst and Consultant

#### IBM

Sep 2013 - Dec 2014    Prague, Czech Rep.

- Creating prototypes of software solutions (with NLP)
- Member of the Smarter Content Analytics (iLab) group
- Technologies: Java, parts of IBM (Watson) products portfolio

### MIS and Reporting analyst

#### Citibank Europe plc

Jun 2011 - Jul 2012    Prague, Czech Rep.

- Reporting processes automation & data analysis
- For the teams of MIS/Collections (Business intelligence)
- Technologies: VBA, MSSQL, SSIS, SAP BO

### Junior technical analyst

#### DHL IT Services

Jun 2009 - Jul 2010    Prague, Czech Rep.

- Support of global processes/applications migration & virtualization
- Member of the Citrix technology and Build & Migration teams
- Technologies: .NET, VMware, Citrix

## EDUCATION

### Ph.D. in Artificial Intelligence

#### Czech Technical University

2013 - 2021    Prague , Czech Rep.

- focus: Deep and Statistical Relational Machine learning from structured data.
- thesis: Deep Learning with Relational Logic Representations

### M.Sc. in Artificial Intelligence

#### Czech Technical University

2010 - 2013    Prague , Czech Rep.

- focus: Machine learning, Optimization, Data analysis, Soft computing
- thesis: Twitter's local trends spread analysis

### B.Sc. in Intelligent Systems

#### Czech Technical University

2007 - 2010    Prague , Czech Rep.

- focus: foundations of Computer science and Software engineering
- thesis: Visual design of evolutionary algorithms

## ABROAD

### M.Sc. Exchange Student

#### National Taiwanese Uni. of Science & Tech.

Fall 2012    Taipei , Taiwan

- focus: Computer Science & Machine Learning

### B.Sc. Exchange Student

#### Nanyang Technological University

Fall 2010    Singapore

- focus: Adv. Algorithms & Neural networks

## TRAINING

### "ATHENS" programme

#### Telecom ParisTech

Mar 2012    Paris , France

- intensive specialization exchange program
- focus: Emergence in complex systems

### IBM "Smart University"

#### IBM CZ

Jun - Aug 2010    Prague, Czech Rep.

- within IBM content analytics technologies
- focus: "Smarter content specialist" (NLP)

## PROJECTS

### End-to-end learning of optimal portfolios

granted by Czech Science Foundation

Jan 2020 - Present

Czech Rep.

Researcher - Focus on principled combining of machine learning and subsequent (portfolio) optimization problems.

### Deep Relational Learning

granted by Czech Science Foundation

Jan 2017 - Dec 2020

Czech Rep.

Researcher - Developing novel algorithms for transferring neural network methods into relational learning setting.

### Machine learning for network security

funded by Cisco R&D

September 2013 - Dec 2015

Prague

Researcher - Developing machine learning methods and sound algorithms to detect malicious events from NetFlow traffic.

### Machine learning methods for bio-informatics

granted by Czech Technical University

Jan 2017 - Present

Prague

Coordinator (PI) - Developing various novel machine learning methods for data analysis in bio-informatics (and beyond).



#### Lifted Relational Neural Networks

A custom framework for deep *relational* learning, written completely from scratch. [github.com/GustikS/NeuraLogic](https://github.com/GustikS/NeuraLogic)

## COMMUNITY

### Faculty Advisor

Upsilon Pi Epsilon

Jan 2017 - Present

upe.cvut.cz

Coordinating Czech UPE Alpha Chapter activities, securing funding.

### Tutor

Czech Technical University

Jan 2013 - Present

Prague

Machine Learning and Data Analysis, Functional and Logic Programming, Database Systems + Introduction to NLP from MatFyz.

### Supervisor/Opponent

Czech Technical University

Jan 2015 - present

Prague

Supervised and reviewed more than 30 bachelor and diploma theses.

### Reviewer

Journals and Conferences

Jan 2017 - present

International

Served as a reviewer for journals and conferences, including TNNLS, AIJ, MLJ, CI, and IJCAI, ILP, and others.

## LANGUAGES

Czech

English

German

Chinese

Russian

Spanish



## TECHNICAL SKILLS

Machine Learning

Data Analysis

Algorithms

Optimization

NLP

Databases

Datalog

Java

Matlab

Python



## AWARDS



#### Best paper @ ILP 2017

International Conference on Inductive Logic Programming



#### UPE Executive Council Award

International Honor Society for the Computing and Information Disciplines endorsed by ACM & IEEE



#### Graduation with honors

summa cum laude both B.Sc. & M.Sc.

## STRENGTHS

Artificial Intelligence

Machine Learning

Data Mining

Data Analysis

Programming

Databases

Analytical Thinking

Planning

Persistence

Speaking

Writing

## FEATURED

interview for magazine "Dotyk"

interview for Open Informatics

## PUBLICATIONS

Over 20 publications with 250+ citations in international journals and conferences, including a US patent.

Please see my [G scholar profile](#)