Milan Rybář

CONTACTS

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Other: [Google Scholar], [ResearchGate], [LinkedIn], [GitHub]

SUMMARY

I am interested in artificial intelligence applied in real-time and in everyday life. My field of interest covers evolutionary computation, bio-inspired algorithms, neural networks, multi-agent systems, planning, scheduling, machine learning, deep learning, and constraint satisfaction problems.

EDUCATION

University of Essex, United Kingdom

Doctoral degree, School of Computer Science and Electronic Engineering,
2018 - 2021 (expected)

- Brain-Computer Interfaces and Neural Engineering Laboratory
- Topic: Semantic brain-computer interfacing

Universität Paderborn, Germany

Exchange program (Erasmus+), *Swarm intelligence, Machine learning*,
2014 - 2015 (2 semesters)

- Average grade: 1.07

Charles University in Prague, Czech Republic

Master's degree, Faculty of Mathematics and Physics,
2012 - 2015

- Program: *Theoretical computer science - Artificial Intelligence*
- Master's thesis: *Inspiration-triggered search: Towards higher complexities by mimicking creative processes*
  The aim of this thesis is to develop an optimization algorithm without a fixed objective function, which mimics creative processes. The proposed method is tested in the domain of images, that is to find complex and aesthetically pleasant images for humans.
  Keywords: evolutionary computation, premature convergence, non-objective search, creative process, evolutionary art
  Technologies: C++, Python
  [Info], [PDF], [Source codes at GitHub], [GECCO 2016 Paper]
- Merit scholarship for excellent study results (2013/2014)
- Average grade: 1.21

Charles University in Prague, Czech Republic

Bachelor's degree, Faculty of Mathematics and Physics,
2009 - 2012

- Program: *General computer science*
- Bachelor's thesis: *2D Platform Game Creator*
  The aim of this thesis is to implement an application for creating 2D games with physics simulation. The game can be created without any programming knowledge. We propose an extendable visual scripting to define the behaviour of game objects.
  Technologies: C#, WinForms, XNA
  [Info], [Example video], [Source codes at GitHub]

- Merit scholarship for excellent study results (2010/2011)
- Average grade: 1.59

(For more information about courses, projects, and so on, see milanrybar.cz.)

Publications

Inspiration-Triggered Search: Towards Higher Complexities by Mimicking Creative Processes. In Proceedings of the Genetic and Evolutionary Computation Conference 2016 (GECCO '16). Milan Rybář and Heiko Hamann.
[Info], [PDF], [Example images with classification], [Source codes at GitHub]

Experience

University of Essex **October 2018 - present**

Graduate Laboratory Assistant

- Data Structures and Algorithms (CE204)
- Large Scale Software Systems And Extreme Programming (CE320)
- C++ Programming (CE221)

Local Arrangements Chair, Registration Chair
11^{th} Computer Science and Electronic Engineering Conference (CEEC'19)

Spaceknow Inc. **October 2015 - December 2017**

Machine Learning Researcher / Engineer

Deep learning methods for semantic segmentation in satellite imagery using Keras and TensorFlow. Design and development of workflow system to execute and manage experiments.

Software Engineer

Design and development of satellite imagery acquisition and analysis platform. Technologies: Python, Google Cloud (Compute Engine, Container Engine, App Engine, Storage, Datastore, etc.), Docker, Kubernetes, and RabbitMQ.

Trisul s.r.o. **2008 - 2011**

Software Engineer, Web Developer
Analysis and implementation of web applications using PHP, MySQL, JavaScript, XHTML, CSS, Nette, CakePHP, Google Maps API, Facebook API, and Paypal API.

Ingrove s.r.o. **2008 - 2010**

Software Engineer, Web Developer
Analysis and implementation of web applications using PHP, MySQL, JavaScript, XHTML, CSS, and CakePHP.

Developstudio s.r.o. **2007**

Software Engineer, Web Developer
Analysis and implementation of web applications using PHP, MySQL, JavaScript, (X)HTML, and CSS.

Projects

MegaFun.cz, 2006 - 2009, sold in 2009
Website for playing flash games and watching videos.

Technical skills

Languages Python, C/C++, C#, Java, PHP, Prolog, Haskell, R

Frameworks TensorFlow, Keras, TFLearn, scikit-learn, Qt, .NET

Databases MySQL, MongoDB

Web HTML, CSS, JavaScript, jQuery

IDE PyCharm, Visual Studio, NetBeans, Eclipse, Matlab

OS Linux, Windows, macOS

Languages

English Full professional proficiency (TOEFL iBT: 102, August 2014)

German Elementary proficiency

Czech Native proficiency