Curriculum Vitae

Personal Data

Full Name	Petra Vidnerová, née Kudová
Born	7 May 1977 in Plzeň, Czech Republic
Citizenship	Czech Republic
Contact	petra@cs.cas.cz, http://www.cs.cas.cz/petra

Research Interests

Machine learning, supervised learning, kernel methods, regularization networks. Deep learning. Hyper-parameter setup, meta-learning.
Genetic algorithms, evolutionary and hybrid approaches.
Combining RBF networks and Deep Networks.

Work Experience

since 2012	**scientist**, Institute of Computer science, The Czech Academy of Sciences Department of Machine Learning.
2007 - 2012	**postdoc**, Institute of Computer science, The Czech Academy of Sciences Mainly working part time (parental leave).
2001 - 2007	**PhD student**, Institute of Computer science, The Czech Academy of Sciences One of the key developers of the multi-agent system Bang (system designed for hybrid models of artificial intelligence, written in C/C++).

Education

2001 - 2007	PhD at Faculty of Mathematics and Physics, Charles University, Prague. Topic of PhD thesis: *Learning with Regularization Networks.* Supervised by Mgr. Roman Neruda, CSc.
2003	RNDr. in Computer Science, Faculty of Mathematics and Physics, Charles University, Prague.
1995 - 2001	Mgr. in Computer Science, Faculty of Mathematics and Physics, Charles University, Prague. Master thesis: *Learning algorithms for RBF networks.* Supervised by Mgr. Roman Neruda, CSc. Software project: MAGDON (Data Mining using genetic algorithms). During study focused on neural networks and computer graphics.

Visits Abroad

February 2006	Machine Learning Summer School. Canberra, Australia. (Volunteering.)
April - June 2005, November 2005	Two visits at Edinburgh Parallel Computing Center (EPCC), Edinburgh University, United Kingdom.
	As a grantee of HPC-Europa project. Hosted by Prof. Ben Paechter, School of Computing, Napier University, Edinburgh.
July 2002	Neural Networks Summer School. Porto, Portugal.

Awards

Best Paper Award	conference ITAT, Slovakia, 2017, P. Vidnerová, R. Neruda. Evolution Strategies for Deep Neural Network Models Design.

Teaching

Courses	Evolutionary algorithms (practical course), The Faculty of Mathematics and Physics, Charles University, 2006-2008
Students	Rudolf Kadlec, The Faculty of Mathematics and Physics, Charles University
	supervising Rudolf's diploma thesis: Evolution of intelligent agent behaviour in computer games, 2008
Commitee Memberships	committee for PhD thesis defence, the opponent of Ing. Martin Šlapák's thesis, Faculty of Information Technology, Czech Technical University (2018, 2019)

Current Grant Projects

Capabilities and Limitations of Shallow and Deep Networks, Czech Grant Agency, no. 18-23827S, 2018-2020 (team member)
National Competence Center - Cybernetics and Artificial Intelligence, Technology Agency of the Czech Republic, no. TN01000024, 2019 - 2020 (team member)

Selected Publications

P. Vidnerová, R. Neruda. *Deep Networks with RBF Layers to Prevent Adversarial Examples.* Artificial Intelligence and Soft Computing, Springer (2018), p. 257-266. Lecture Notes in Artificial Intelligence, 10841. ISBN 978-3-319-91252-3. ISSN 0302-9743.
S. Slušný, R. Neruda, P. Vidnerová. *Comparison of Behavior-based and Planning Techniques on the Small Robot Maze Exploration Problem.* Neural Networks. Volume 23, Issue 4 (2010), p. 560-567. ISSN 0893-6080.
R. Neruda, P. Kudová. *Learning Methods for Radial Basis Functions Networks.* Future Generation Computer Systems. 21. (2005), p. 1131-1142. ISSN 0167-739X

Software

rbf_keras	Implementation of an RBF layer for the Keras library. Available at https://github.com/PetraVidnerova/rbf_keras

Community Service

professional	PC member, reviewer
	member of conference programme committees: AIAI 2016, AIAI 2018-201, EANN 2015-2019, EML GECCO 2016-2019, IJCNN 2017, IJCNN 2019, ICANN 2018, ITAT 2009
	reviewing for scientific journals: Neural Processing Letters, IEEE Transactions on Cybernetics, Computing and Informatics, IEEE Transactions on Evolutionary Computations, Neural Networks, Natural Computing, Analytical Letters, IEEE Transactions on Neural Networks and Learning Systems, Computer Science Review, IEEE Sensors Journal
	reviewer for GA UK
	taking care of blog of Institute of Computer Science (since 2015) http://zatisi.cs.cas.cz
free-time	assisting at PyLadies.cz courses, reviewing attendees' homework assignments (since 2018)
	PyLadies are a community of female Python programmers helping women to get familiar with IT.

Languages

Czech	native
English	CAE certificate (2006)
German	elementary

Other skills

Programming Languages	Python, bash (in past: Pascal, C/C++, MPI, Perl, PHP, SQL, JavaScript), basic knowledge of HTML and CSS
	familiar with Python libraries: numpy, pandas, matplotlib, scikit-learn, Keras
	moderate experience with Django framework
Other	LaTeX, git
	enthusiastic Linux user

Miscellaneous

certificates	First Aid Kids - Basic Life Support. SHOCK Training Center. (2011)
	Respektovat a být respektován. Course of communication skills focused on a parent-child communication. Accredited by MŠMT (Ministry of Education, Youth and Sports). (2013)
past experience	Leadership of programming hobby courses for secondary school children (Pascal, C). (1996-2001)