

Petr Baudiš

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Summary

Petr Baudiš is UNIX programmer with keen interest in artificial intelligence. He has worked on many open source projects, including ELinks, Git and GNU libc. Currently, he works part-time as a freelance contractor and consultant, also pursuing PhD degree at the Czech Technical University and teaching at the Charles University. He is engaged in Computer Science research in the field of Computer Go and Algorithm portfolio methods. His hobbies include digital electronics, biking and the game of Go.

Skill Set

In-depth knowledge of **C**, **shell (POSIX, bash)** and **Perl**. Very good working knowledge of C++ and Python. Basic experience in many other languages.

Native Czech speaker, **fluent English** (CAE grade A), passive French.

Artificial intelligence — Operational knowledge of basic methods of applied artificial intelligence and machine learning, active research in the field.

Linux — System (userspace) programming, application programming, administration.

Version control systems — Researcher-level experience, mainly Git in practice.

Reverse engineering — Protocols, file formats, programs.

Web programming — Perl-based, basic experience with Ruby/Rails.

Project management — Maintenance of several multi-developer open source projects.

Education

Pursuing PhD Degree, Artificial Intelligence and Biocybernetics, Czech Technical University.

Mgr. (Masters) Degree, Theoretical Computer Science (spec. “Artificial Intelligence”), Charles University in Prague, 2012.

Bc. (Bachelor) Degree, Computer Science (spec. “Programming”), Charles University in Prague, 2009.

Eight-year **Grammar School**, Ad Fontes Jihlava, 2004.

Consulting

Consulting Programmer (Freelance), various, 2011–present.

Special mention deserved by **NemaLoad** (independent basic research project): Computer vision and machine learning on Light Field Microscope snapshots of biological specimen.

Implementation of the PubNub cloud-based messaging service API library in C and for various embedded platforms.

Large-scale customization and many extensions of C++ web proxy software.

Git extensions, custom hooks, workflow setup.
 RaspberryPi custom software development, omxplayer package modifications.
 BluRay subtitles decoding and extraction.
 Custom electronics development.
 . . . and many more projects.

Custom Software Development, GTS Czech, 2000–2004, 2013.

EWTerm — a feature-rich Linux terminal for the Siemens EWSD telephone exchange.
 Web application for SNMP monitoring of customer VPN routers.
 Monitoring software for gathering and listing of telephone exchange alarms.
 Hot-line call monitoring web application for NMC operators.

Linux Administration and Security, M-Soft s.r.o., 2000–2004.

Employment

Network Administrator, Department of Applied Mathematics, Faculty of Math and Physics, Charles University in Prague, July 2005–September 2012.

Senior Software Engineer (Git, GNU libc), SUSE Labs Prague, Novell, July 2005–May 2011.

Invited Internship (custom Git deployment), Novartis Pharma A.G., June 2008–September 2008.

Google Summer of Code (Git–Monotone gateway), Monotone Project, July 2005–August 2005.

Network Administrator, Institute of Formal and Applied Linguistics, Faculty of Math and Physics, Charles University in Prague, September 2004–June 2005.

Other Projects

Creator, maintainer of world-class **Go-playing program Pachi**, 2008–ongoing.

UEC 2013 Chofu, 6th UEC Cup: fourth place (out of 22 programs)

UEC 2012 Chofu, 5th UEC Cup: fourth place (out of 24 programs)

ICGA 2011 Tilburg, 16th Computer Go Olympiad: one silver and two bronze medals

Former developer of **GNU libc** for SUSE Labs, glibc-2.11 stable branch maintainer, 2007–2011.

Work around the **Git** VCS; one of the very first contributors, afterwards focusing mainly on **TopGit**, **Girocco** and **Cogito**, former maintainer of the Git homepage, 2005–2008.

Former open-source game developer: **OpenTTD** (many contributions), **FreeCIV** (AI development).

Former maintainer of the **ELinks** text WWW browser open source project.

Kick-started a wide range of minor projects: hed, retty, screenenv, brmbar, brmson, etc.

Contributed to a wide range of other open source projects: Linux man-pages, Linux kernel, Links, CIA, mpg123, etc.

Creator, developer of several public web services: **repo.or.cz**, **VýsledkyVoleb.cz**, etc.

Major customizations of large obfuscated closed-source Java application: **cgoban-h**.

Core project member of the (historical) **XS26** distributed IPv6 tunnel-broker.

Research and Writing

Researcher, Combinatorial Game Theory and Applications, GAUK Project 66010 of Charles University Prague, 2011.

Research visit, Monte Carlo Tree Search and Go AI; Stellenbosch University (prof. Steve Kroon), South Africa, November 2011.

Baudiš, P., Pošík, P.: Online Black-box Algorithm Portfolios for Continuous Optimization; PPSN 2014, Ljubljana, 2014. (*in review*)

Baudiš, P.: COCOpf: An Algorithm Portfolio Framework; Poster 2014, Prague, 2014.

Moudřík, J., Baudiš, P.: **Evaluating Go Game Records for Prediction of Player Attributes**; EGC 2013 Scientific Conference, Olsztyn, 2013.

Baudiš, P., Gailly, J.-L.: **Pachi: State of the Art Open Source Go Program**; Advances in Computer Games 13 (LNCS 7168), Tilburg, 2011.

Baudiš, P.: **Balancing MCTS by Dynamically Adjusting Komi Value**; International Computer Games Association Journal 2011/3.

Baudiš, P.: **MCTS with Information Sharing**; Master thesis; Faculty of Mathematics and Physics, Charles University in Prague, 2011.

Baudiš, P., Moudřík J.: **On Move Pattern Trends in Large Go Games Corpus**; arXiv.org 1209.5251, 2012.

Jelínek, J.: Vytváříme vlastní distribuci Linuxu (Creating Linux Distribution; ISBN 978-80-251-2433-8); Computer Press, Brno, 2010. Technical editor.

Jelínek, J.: Jádru systému Linux (Linux System Kernel; ISBN 978-80-251-2084-2); Computer Press, Brno, 2008. Technical editor.

Baudiš, P.: **Current Concepts in Version Control Systems**; Bachelor thesis; Faculty of Mathematics and Physics, Charles University in Prague, 2008.

Baudiš, P.: **Nástroje pro správu verzí** (Version Control Tools); Proceedings OpenWeekend 2005 (ISBN 80-01-03349-X); Studentská Unie CVUT, Prague, 2005.

Mutton, P. (ed.): IRC Hacks (ISBN 0-596-00687-X); O'Reilly Media, Sebastopol, 2004. Contributor.

Teaching

Operating Systems and Networks, Teaching Assistant, Czech Technical University, Winter 2013.

Game Algorithms (minimax, MCTS and enhancements), Co-lecturer with Jan Hric, Charles University, Winter 2011–ongoing.

Essentials of UNIX (UNIX concepts and shell scripting), Teaching Assistant to Libor Forst, Charles University, Summers 2006–2013.

Open Source Programming (introduction to open source philosophy, community, programming environment), Lecturer, Charles University, Winter 2011 and 2012.

Implementation of Algorithms (advanced C programming, high-performance computing), Teaching Assistant to Martin Mareš, Charles University, Winter 2008 and Summers 2010–2013.

Artificial Intelligence and Theoretical Computer Science, one-time cycle of 15 lectures, brmlab (hackerspace Prague), Winter 2011.

Conference and Seminar Presentations

Information Sharing in MCTS, University of Electro-Communications, Chofu–Tokyo, 2013.

Pachi: State of the Art Open Source Go Program, Advances in Computer Games 13, Tilburg, 2011.

Computer Go: State-of-the-art Overview

Agent Theory Group Seminar, Czech Technical University, 2013.

European Go Congress, Bonn, 2012.

with Francois van Niekerk, Stellenbosch, 2011.

European Go Congress, Tampere, 2010.

Seminar on Artificial Intelligence, Charles University, Prague, 2009.

Lowlevel Linux Userspace Programming

LinuxDays, Prague, 2012.

Páteční přednášky v SUSE, Prague, 2010.

U-IN-X, Prague, 2010.

Linuxové odpoledne, Plzeň, 2007.

Open Source: The Brave New World, Stellenbosch, 2011.

Umělá inteligence (Artificial Intelligence), Hub Future, Prague 2011.

Various talks, brmlab Lightning Talks, Prague, 2011–2013.

Balancing MCTS by Dynamically Adjusting Komi Value, Seminar on Artificial Intelligence, Charles University, Prague, 2010.

Git — Conceptual Overview, Basic Tutorial

Linux Kernel Seminars, Charles University, Prague, 2011–2012.

brmlab, Prague, 2011.

Páteční přednášky v SUSE, Prague, 2008.

Linux Seminar, Prague, 2008.

Ottawa Linux Symposium, Ottawa, 2006.

SUSE Labs Conference, Prague, 2005.

Various talks, GitTogether, Mountain View, 2008.

Nástroje pro správu verzí (Version Control Tools), OpenWeekend 2005, Prague, 2005.

Technical Interests

Natural Language Processing: question-answering systems, knowledge extraction

Computer Go, computer game-playing in general: implementation of own top strength Go-playing program, research in MCTS enhancements.

Version Control: theoretical concepts, user interfaces, unusual applications.

Low-level Performance Optimizations: low-level processor and cache behavior and tuning, GPGPU, Cell, FPGA.

Tangible User Interfaces / Ubiquitous Computing / Robotics: multitouch surfaces, 3-D visualization and computer control, Arduino hacks and digital electronic circuits, several simple robot prototypes, . . .

Strong Artificial Intelligence, Space Exploration.

Hobbies

(I would like to do those and many more things, but the amount of available free time is the main limiting factor which chokes most of them heavily.)

Avid Go player (currently European 2 kyu, KGS/IGS approx. 2 dan).

Avid reader, some writing literary tendencies.

Math, popular physics, popular genetics and biology.

Biking, walking the country, Geocaching, DDR.

Good music (from Bach to Morcheeba), dry humor.

Basic piano playing skills (I also played cello through my childhood).

IRC (IRCNet IRC operator).

Thoughtful manga and anime (esp. the studio Ghibli production, Haibane renmei, Kino no tabi).

Rogue-like (ADOM!) and paper-based RPGs.

Trivia

Personality type INFP/INTP (borderline).

Founding member of several NGOs: brmlab (Prague Hackerspace), FFII.CZ.

Technical contact for one side of the very first Czech IPv6 peering (XS26–CESNET).

Last updated: May 5, 2014