Jan Vraný

Personal Data

Name **Jan Vraný**

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Address **Jan Vraný**,
15 Seafield Road,
Dundee, DD14NR,
United Kingdom.

Research Interests

object oriented programming, dynamic languages, programming language design and implementation, multi-language programming environments, virtual machines

University Education

2005–2010 **Ph.D.**, *Software Engineering Group, Czech Technical University in Prague*, Prague, Thesis Title: Supporting Multiple Languages in Virtual Machines.
Supervisor: Doc. Ing. Vojtěch Merunka, Ph.D.
Reviewers: Prof. Dr. Alexandre Bergel, Dr. Stéphane Ducasse, Doc. Ing. Vladimír Janoušek, Ph.D.

1999–2005 **Ing.**, *Faculty of Electrical Engineering, CTU*, Prague, Specialization: Computer Engineering.
Supervisor: Doc. Ing. Vojtěch Merunka, Ph.D.

Employment History

2011–now **Engineer**, *eXept Software A.G.*, Stuttgart.
- Development of eXpecco test tool.
- Development of tools for continuous integration.
- Development and maintenance of Smalltalk/X environment.

2009–now **Researcher**, *Department of Software Engineering, Faculty of Information Technology, Czech Technical University in Prague*, Prague, Czech Republic.
Courses:
- Programming and Algorithmics 2 (labs)
- Runtime Systems (responsible for whole course)

2006–2009 **Teaching Assistant**, *Department of Computer Science, Faculty of Electrical Engineering, Czech Technical University in Prague*, Prague, Czech Republic.
Courses:
- Object Oriented Programming (lectures, labs)
- Object Modeling (labs)
- UNIX Administration (labs)

2006 **Programmer**, *University of Economics*, Prague, Czech Republic.
Main developer of IZAR, a tool for multicriteria decision making.

2004–2006 **Programmer, Analyst**, *e-Fractal s.r.o.*, Prague, Czech Republic.
Member of a Smalltalk team, various projects ranging from information systems to small telco applications.

Projects

STX:LIBJAVA An implementation of Java Virtual Machine for Smalltalk/X environment allowing smalltalk and Java code to run in one virtual machine at the same time. This way, Smalltalk programmers may reuse a code already written in Java.
Web site: `http://swing.fit.cvut.cz/projects/stx-libjava`

Smalltalk/X jv-branch Ready-to-use distribution of Smalltalk/X development platform with many enhancements, including support for multiple programming languages, virtual machine level metaobject protocol for customizing method lookup, selector namespaces support, SubVersion & Mercurial integration layer and various IDE improvements. STX:LIBJAVA included!
Web site: `http://swing.fit.cvut.cz/projects/stx-jv`

stx:libscm stx:libscm is a new source code management library for Smalltalk/X. Currently only Mercurial is supported but its design allow for other source code management systems to by plugged in if required.
Web site: `https://bitbucket.org/janvrany/stx-libscm/overview`

CalipeL CalipeL is a simple framework to ease development and maintenance of benchmarks and performance regressions. It includes a simple web application to manage benchmark results over time. CalipeL has been heavily inspired by SUnit and Caliper.
Web site: `https://bitbucket.org/janvrany/jv-calipel`

SmallSense SmallSense is a set of tools that speed up development and make Smalltalk programming even more fun. Features includes new code-completion – a fast code completion system for Smalltalk using both static and runtime type inference. Syntax-driven editing – a nice little feature that helps you with editing and formatting the code, all syntax- and format-preferences aware! Instant static analysis – to detect and fix common errors and code smells as you type.
Web site: `https://bitbucket.org/janvrany/jv-smallsense`

SmallRuby SmallRuby is another implementation of Ruby programming language built on top of Smalltalk/X virtual machine. It focuses on performance and interoperability with smalltalk.
Web site: `http://swing.fit.cvut.cz/projects/smallruby`

IZAR An open, extensible tool for multicriterial decision making. Includes both a graphical user interface and an extensive set of algorithms. Freely available for Windows and Linux.
Web site: `http://swing.fit.cvut.cz/projects/izar`

Public Source Code Repositories

BitBucket `https://bitbucket.org/janvrany`

GitHub `https://github.com/janvrany`

SWING Research Group
- `http://swing.fit.cvut.cz/hg`
- `http://swing.fit.cvut.cz/svn`

Languages

Czech **native**

English **fluent**

Computer skills

Operating systems: Linux, IRIX, Windows

Programming Languages: Smalltalk, Python, Ruby, Java, C, C++, UNIX Shell, Machine code (i386, MIPS)

Misc: LaTeX, Open Office

Tools: SmaCC, JavaCC, GNU R, Otave, Shell,Jenkins CI Server, SubVersion, Mercurial, Git, CVS, Monticello, StORE

Selected Papers

[1] Marcel Hlopko, Jan Kurš, Jan Vraný, and Claus Gittinger. On the integration of smalltalk and java. In *Science of Computer Programming: Methods of Software Design: Techniques and Applications*. Elsevier, to appear, 2013.

[2] J Kurš and J. Vraný. Deferred node-copying scheme for XQuery processors. In *DATESO 2010*, pages 131–138, Praha, 2010. Matfyzpress.

[3] Jana Kalčevová Petr Fiala and Jan Vraný. CRAB-CombinatoRial Auction Body Software System. In *Journal of Software Engineering and Applications*, July 2010.

[4] Jan Vraný. *Supporting Multiple Languages in Virtual Machines*. PhD thesis, Faculty of Information Technologies, Czech Technical University in Prague, September 2010.

[5] Jan Vraný, Jan Kurš, and Claus Gittinger. Efficient method lookup customization for smalltalk. In *Proceedings of the 50th international conference on Objects, Models, Components, Patterns*, TOOLS'12, pages 124–139, Berlin, Heidelberg, 2012. Springer-Verlag.

[6] J. Vraný and A. Bergel. The Debuggable Interpreter Design Pattern. In *Proceedings of the International Conference on Software and Data Technologies (ICSOFT 2007)*, volume 1, pages 1–17, Setúbal, 2007. Institute for Systems and Technologies of Information, Control and Communication.

[7] J. Vraný and M. Píše. Multilanguage Debugger Architecture. In *SOFSEM*, pages 731–742, 2010.

[8] J. Vraný, Z. Struska, and V. Merunka. Object normalization as the contribution to the area of formal methods of object-oriented database design. In *ICEIS 2006 - Proceedings of the Eighth International Conference on Enterprise Information Systems: Databases and Information Systems Integration, Paphos, Cyprus, May 23-27, 2006*, volume 3, pages 471–474, Setúbal, 2006. INSTICC Press.

[9] J. Vraný and J. Žák. A modular xquery implementation. In *Proceedings of the Dateso 2007 Annual International Workshop on DAtabases, TExts, Specifications and Objects*, pages 47–54, Ostrava, 2007. VŠB - Technická univerzita Ostrava.