

## Personal Data

Name **Jan Vraný**  
e-mail **jan.vrany@fit.cvut.cz**  
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

- 2017–now **Engineer**, *Palantir Solutions, Buenos Aires*.
  - Development and maintenance of Bee Smalltalk.
- 2015–2017 **Engineer**, *CaesarSystems, Buenos Aires*.
  - Development and maintenance of Bee Smalltalk.
  - Development of Bee-CLR interop.
- 2011–2015 **Engineer**, *eXept Software A.G., Stuttgart*.
  - Development and maintenance of Smalltalk/X system and VM.
  - Development and maintenance of STX:LIBJAVA
  - Development of tools for continuous integration.
  - Development of eXpecco Java Debugger plugin and other plugins
- 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, Sub-Version & 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 be 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>

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## Public Source Code Repositories

BitBucket <https://bitbucket.org/janvrany>  
GitHub <https://github.com/janvrany>  
SWING [o http://swing.fit.cvut.cz/hg](http://swing.fit.cvut.cz/hg)  
Research [o http://swing.fit.cvut.cz/svn](http://swing.fit.cvut.cz/svn)  
Group

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## Languages

Czech native  
English fluent

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## Computer skills

Operating systems	Linux, IRIX, Windows	Misc	L <sup>A</sup> T <sub>E</sub> X, Open Office
Programming Languages	Smalltalk, Python, Ruby, Java, C, C++, UNIX Shell, Machine code (x86, MIPS)	Tools	SmaCC, JavaCC, GNU R, Otave, Shell, Jenkins CI Server, SubVersion, Mercurial, Git, CVS, Monticello, StORE

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## Selected Papers

- [1] Marcel Hlopko, Jan Kurš, Jan Vraný, and Claus Gittinger. On the integration of smalltalk and java. *Science of Computer Programming*, 96, Part 1:17 – 33, 2014. Special issue on Advances in Smalltalk based Systems.
- [2] Jan Kurš, Jan Vraný, Mohammad Ghafari, Mircea Lungu, and Oscar Nierstrasz. Efficient parsing with parser combinators. *Science of Computer Programming*, pages –, 2017.
- [3] Jan Vraný. *Supporting Multiple Languages in Virtual Machines*. PhD thesis, Faculty of Information Technologies, Czech Technical University in Prague, September 2010.
- [4] 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.
- [5] 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.
- [6] J. Vraný and M. Píše. Multilanguage Debugger Architecture. In *SOFSEM*, pages 731–742, 2010.