

# Eva Rose

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**Objective** To build upon my academic and practical skills in the area of service oriented architecture, mobile code, program safety, and pervasive devices to develop integrated, scalable, secure, and resource-efficient IT solutions.

**Education** **Université Denis Diderot (Paris VII)** *Ph.D. in Computer Science*  
September 2002 Paris, France  
I invented, analyzed and implemented a basic security technique to guarantee program safety for mobile code. The technique, “lightweight verification” made it possible for Sun to port Java program-safety safely onto embedded systems like cellular phones, personal digital devices (PDAs), and other Java-enabled pervasive devices. An early version of the technique is now part of the J2ME standard. Recently, the technique has also been proposed for the standard Java platform through the JSR 202 proposal.

My studies were funded by a scholarship from INRIA (the French national research board.)

**Københavns Universitet (DIKU)** *M.Sc. in Computer Science*  
October 1998 Copenhagen, Denmark  
My graduate work was focused on a formal treatment of virtual machines, and has led to journal publications in the area of complexity theory and Java semantics.

I was selected for the European Union ERASMUS undergraduate exchange program in mathematics. I studied at Université Denis Diderot (Paris VII) (1991–1992, France), where I also followed and passed graduate courses in the prestigious “DEA de Logique”.

**Journal Publications** I have published in 3 academic journals which rank in the *top quarter* in citations. Two of these articles are single-authored. One publication was selected to be *among the best articles* at the European Symposium on Programming (ESOP) 1996.

**Professional Experience** **IBM T.J. Watson Research Center** *Post Doctoral Researcher*  
2003–2004 Hawthorne, NY  
I have been focused on improving on-demand operating aspects of web services. In particular with respect to scalability and development cost. I have improved the Axis implementation to enable web service clients to shift between a variety of service providers after client deployment. Specifically between MS.NET and J2EE implementations. The work has been submitted to publication.

**Ecole Normale Supérieure de Lyon** *Teaching assistant*  
Spring 1998 Lyon, France  
I served as assistant in Programming Language Semantics. Part of my task was to formulate and grade assignments.

**University of Copenhagen** *Teaching assistant*  
Fall 1996 Copenhagen, Denmark

I served as assistant in Network Computing, where I taught, chose and formulated exercises.

**University of Copenhagen**

Fall 1990

Responsible for lab exercises in C programming.

*Tutor*

Copenhagen, Denmark

**Danmarks Statistik**

1987–1989

I served as part of a team at the Danish Government Statistical Department's IT division. The team were giving advice and providing IT solutions to customers for the national consumer survey in 1987. We were given written acknowledgement, crediting our work.

*Planner and programmer*

Copenhagen, Denmark

**Danmarks Turist Information**

1986–1987

I served at the Danish Tourist Board, where I provided information about Denmark to an international audience of tourists in English, French, German, and the Scandinavian languages.

*Tourist agent*

Copenhagen, Denmark

Invited Talks

**DEC SRC research lab**

October 1997

My talk led Shen Liang from Sun Microsystems to implement lightweight verification from my Ph.D. thesis, in interaction with me, in the embedded Java virtual machine (J2ME).

*Workshop on Java Security (invitation only)*

Palo Alto, CA

**L'Action Coopérative Java Card**

1997, 1998, 1999

I presented at a series of collaborative meetings between French companies, INRIA, and selected universities. These meetings led the French company GEM+ to implement lightweight verification from my Ph.D. thesis.

*Workshops on Java Card (invitation only)*

Rennes, Nice, St. Malo, and Paris, France

Professional Skills **Service-oriented architecture (SOA):** standards (XML, SOAP, WSDL) and their implementation (Apache Axis).

**Mobile code and embedded systems platforms:** J2ME, KVM, CLDC, Java Card.

**Programming languages:** object-oriented (Java, Java Card), imperative (C, PL/1, Pascal), declarative (Standard ML, Lisp/Scheme, Prolog, SQL), and machine languages (Java bytecode, M68K).

**Development platforms:** the UNIX environment (Emacs,  $\LaTeX$ , CVS, make, sh, libc), the Eclipse platform.

Special Skills

**Languages:** I am fluent (spoken and written) in more than 4 languages, that is English, French, German, and the Scandinavian languages.

Other Interests

I serve in the FDR high school mentor program to encourage the development of math, science, and leadership skills in female students. I enjoy to create a trust relation to stimulate growth in a student's professional interests.

## Publications

### *Refereed*

- 2003** E. Rose, Lightweight Bytecode Verification, *Journal of Automated Reasoning* **31**(3–4): 303–334. Kluwer Academic Publishers, 2003.
- 2002** E. Rose, Vérification de Code d’Octet de la Machine Virtuelle Java, Formalisation et Implantation, *Ph.D. thesis*, September 2002, Université Dennis Diderot – Paris VII (2, Place Jussieu, 75251 Paris Cedex 05), France.
- 2001** E. Rose and K. H. Rose, Java Access Protection through Typing, *Concurrency and Computation: Practice and Experience* **13**(13): 1125–1132. John Wiley & Sons, 2001.
- 1998** E. Rose, Linear-time Hierarchies for a Functional Language Machine Model, *Science of Computer Programming* **32**(1–3): 109–143. Elsevier, 1998.
- 1998** E. Rose, Towards Secure Bytecode Verification on a Java Card, *M.Sc. thesis*, 1998, Københavns Universitet – DIKU (Universitetsparken 1, 2100 Copenhagen East), Denmark.
- 1998** E. Rose and K. H. Rose, Lightweight Bytecode Verification, in S. Eisenbach, *Formal Underpinnings of Java* (An OOPSLA workshop), October 1998, Vancouver, Canada. <http://www.doc.ic.ac.uk/~sue/oopsla/cfp.html>.
- 1996** E. Rose, Linear time hierarchies for a functional language machine model, in: H.R. Nielson (Ed.), *European Symposium on Programming ESOP '96*, Linköping University, Sweden, April 1996, Lectures Notes in Computer Science, Vol.1058, Springer, Berlin, 1996, pp.311–325.

### *Unrefereed*

- 1999** E. Rose and K. H. Rose, A Lightweight Java Bytecode Checker in Prolog, in T. Jensen, *Réunion de l’action coopérative Java Card*, (L’action coopérative Java Card was a collaboration-project on Java Cards between selected French industrial software partners, INRIA, and selected universities), July 1999, St. Malo, France.
- 1996** E. Rose, Characterizing computation models with a constant factor time hierarchy, presented at K. Kapron, *DIMACS Workshop On Computational Complexity and Programming Languages* Rutgers University, July 1996, USA. (Available as DIKU Semantics Tech report D-285 <ftp://ftp.diku.dk/diku/semantics/articles/D285.ps.gz>.)

### *Under evaluation*

- 2004** E. Rose and K. H. Rose, Client-side Management of Web Service Diversity. Submitted to publication.