Florent Kirchner

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Work experience

6 weeks in summer of 2001

Visiting student — **Air traffic management software engineering.**
I implemented airborne conflict resolution algorithms in Java, working in close collaboration with scientists and contributing decisively to the final design and publication of these algorithms.
ICASE, NASA Langley Research Center, Hampton VA 23666, Virginia, USA

March – September 2002

Intern — **Aerospace software engineering.**
I designed and implemented an UCAV mission planning tool in Java. This involved successfully interacting with very diverse company divisions to assert the usability of existing platforms, produce and review specifications, implement and validate the tool.
Dassault Aviation, 78 quai Marcel Dassault, 92552 Saint-Cloud, France

March – September 2003

Master's student — **Research in formal methods.**
This prelude to my Ph.D work required making a strong statement about my ability to quickly isolate, analyze and solve a difficult problem. I succeeded in bringing together the very diverse features of the Coq and PVS proof languages into one common core, reviewed and approved by members of both communities.
INRIA-Futurs, École Polytechnique, 91129 Palaiseau, France
NIA, 100 Exploration Way, Hampton VA 23666, Virginia, USA

Since September 2003

Ph. D student — **Research in formal methods.**
During this work I studied the delicate problem of compatibility between several logical frameworks, fruitfully featuring and implementing several solutions to this problem and implementing a tool dedicated to sharing of critical formal developments between Coq, Isabelle and PVS. This long-term project allowed me to demonstrate a sound capability of organization, constant scientific awareness, numerous interactions with the academic community and an efficient combination of independence, teamwork, creativity and dedication.
INRIA-Futurs, École Polytechnique, 91129 Palaiseau, France
NIA, 100 Exploration Way, Hampton VA 23666, Virginia, USA

Education and training

1985 – 1986

First Grade
El Carmelo School, Palo Alto, California, USA

1999 – 2002

Engineering degree with honors, Pegasus Award
Computer Science and Air Traffic Management
ENAC French Civil Aviation School, Toulouse, France

2001 – 2002

Master as an exchange student, GPA: 3.750 / 4
Computer Science
Illinois Institute of Technology, Chicago, Illinois, USA

2002 – 2003

Master's degree with honors
Computer Science: Semantics, Proofs and Languages

École Normale Supérieure de Cachan, Paris, France

Since 2003

Preparation of a Ph. D
Computer Science: The Formal Semantics of Proof Languages
École Polytechnique, Saclay, France and the **National Institute of Aerospace**, Hampton, Virginia, USA

Personal skills and competences

Mother tongue

French

Natural languages

English, fluent
German, basic

Programming languages

C, Java, Ada, Lisp, Ocaml, Bash
Make, Autoconf, Automake
LaTeX, BibTeX, HTML, CSS, Javascript

Proof languages

Coq, PVS

Publications

Alfons Geser, César Muñoz, Gilles Dowek, and Florent Kirchner.
Air traffic conflict resolution and recovery.
Technical Report ICASE Report No. 2002-12 NASA/CR-2002-211637, ICASE-NASA Langley, ICASE Mail Stop 132C, NASA Langley Research Center, Hampton VA 23681-2199, USA, May 2002

Florent Kirchner.
Coq tacticals and PVS strategies: A small-step semantics.
In Mila Archer et al., editor, *Design and Application of Strategies/Tactics in Higher Order Logics*, pages 69–83. NASA, September 2003

Florent Kirchner.
Towards a common tactical language : The case of Coq and PVS.
Master's thesis, DEA Programmation : Sémantique, Preuves et Langages, 2003

Hugo Herbelin, Florent Kirchner, Benjamin Monate, and Julien Narboux.
Coq version 8.0 for the clueless (174 hints), 2004

Florent Kirchner.
Store-based operational semantics.
In *Seizièmes Journées Francophones des Langages Applicatifs*. INRIA, 2005

Personal interests

Software security, Programming language semantics, Proof languages
Air traffic control, Space