

# Stefan Monnier

## Curriculum Vitæ

Department of Computer Science  
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### Education

Yale University, Ph.D. in Computer Science, expected July 2003.

Thesis: *Type-Safe Runtime Services*.

Advisor: Zhong Shao.

M.Ph. in Computer Science, 1999.

Swiss Federal Institute of Technology Lausanne. B.S. in Computer Science, 1995.

Carnegie Mellon University. Undergraduate 3<sup>rd</sup> year, Sep 1992 - May 1993.

### Interests

Design and implementation of programming languages and compilers; type theory; formal methods; language-based safety and security; interactions between programming languages, runtime services, operating systems, and computer architecture.

### Experience

#### Research

Yale University. Research Assistant, FLINT project. 1997-now

Designed techniques to enforce safety of low-level code using *types* and to generate certified code.

Primarily focused on type-safe garbage collection.

Earlier, adapted standard optimization techniques to the context of typed intermediate languages, including a rewrite of the optimizer of the industrial strength SML/NJ compiler.

Swiss Federal Institute of Technology Lausanne. Research Assistant, AI Lab. 1995-1996

Applied novel rescheduling techniques to Swissair's flight scheduling system.

#### Teaching

Yale University. Teaching Fellow. 1997-1999

*Compilers and Interpreters*; *Operating Systems*; and *Data Structures and Programming Techniques*:

Held office hours, graded and helped develop projects and assignments, and gave a few guest lectures.

Carnegie Mellon University. Teaching Assistant. 1993

*Operating Systems*: Helped develop assignments and sample solutions and provided informal support to students.

Swiss Federal Institute of Technology Lausanne. Teaching Assistant. 1991-1992

*Introductory Programming*: Led weekly sections and graded assignments.

## Other

Union Organizer, Graduate Employees and Students Organization.	2000-now
Developer, GNU Emacs.	1999-now
System Administrator, AI Lab, Swiss Federal Institute of Technology Lausanne.	1996
Undergraduate Research Assistant, Carnegie Mellon University.	1993
Ported an air quality simulation software using PVM3 in a mix of Fortran and C, to 64bit platforms (a farm of Alphas and a Cray C90).	

## Publications

### Journal articles

1. *A Syntactic Approach to Foundational Proof-Carrying Code*. Nadeem Hamid, Zhong Shao, Valery Trifonov, Stefan Monnier, and Zhaozhong Ni. To appear in Journal of Automated Reasoning—Special Issue on Proof-Carrying Code.
2. *Inlining as Staged Computation*. Stefan Monnier and Zhong Shao. To appear in Journal of Functional Programming—Special issue on Semantics, Applications, and Implementation of Program Generation.
3. *Mise en oeuvre d'un processeur de type SMT*. Dominik Madon, Eduardo Sanchez, and Stefan Monnier. *Technique et Science Informatiques*, Volume 20 n°1, pages 31-52, 2001.

### Conference articles

4. *Typed Regions*. Stefan Monnier and Zhong Shao. Submitted. YALEU/DCS/TR-1242.
5. *A Syntactic Approach to Foundational Proof-Carrying Code*. Nadeem Hamid, Zhong Shao, Valery Trifonov, Stefan Monnier, and Zhaozhong Ni. In Proc. 17th Annual IEEE Symposium on Logic in Computer Science (LICS'02), Copenhagen, Denmark, pages 89-100, July 2002.
6. *Principled Scavenging*. Stefan Monnier, Bratin Saha, and Zhong Shao. In Proc. 2001 ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI'01), Snowbird, UT, pages 81-91, June 2001.
7. *A Study of a Simultaneous Multithreaded Architecture*. Dominik Madon, Eduardo Sanchez, and Stefan Monnier. In Proc. EuroPar'99, Toulouse, Lectures Notes in Computer Science, Volume 1685, Springer-Verlag, pages 716-726, September 1999.
8. *Implementing Typed Intermediate Languages*. Zhong Shao, Christopher League, and Stefan Monnier. In Proc. 1998 ACM SIGPLAN International Conference on Functional Programming (ICFP'98), Baltimore, Maryland, pages 313-323, September 1998.

## References

Zhong Shao, Yale University, [shao@cs.yale.edu](mailto:shao@cs.yale.edu)

Valery Trifonov, Yale University, [trifonov@cs.yale.edu](mailto:trifonov@cs.yale.edu)

Paul Hudak, Yale University, [hudak@cs.yale.edu](mailto:hudak@cs.yale.edu)