Mirco Dotta
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1026 Denges(VD)
Switzerland

Interest

Compilers, formal verification, software engineering.

Education

- **Swiss Federal Institute of Technology (EPFL)** — Lausanne
  Bachelor, Computer Science — *Oct. 2004 - July 2006*
- **Swiss Federal Institute of Technology (EPFL)** — Lausanne
  Master, Computer Science — *Oct. 2006 - in progress*
  - Graduation expected in February 2009.

Work Experience

- **Student-Assistant** — EPFL, Lausanne
  Java, Advanced Topics in Programming (ATiP) and Foundation of Software (FoS) — *Oct. 2004 - Dec. 2007*
  - Help students during lab session. Help the designing of the exams. Correct and grade student's projects.
  - Lectures held by R. Guerraoui (Java - Bachelor course) and M. Odersky (ATiP - Bachelor course - and FoS - Master course).

- **Actorrent** — EPFL, Lausanne
  Programming Methods Laboratory — *Aug. 2006*
  - Porting of a Java bittorrent client/server to a partial Scala implementation (Scala is a modern Java-compatible OO language with pattern matching and mixin composition, similar to F#).
  - Use Actors (which enable Erlang-style concurrency) to reduce Java thread overhead.

- **Verifying pattern matching with guards in Scala** — EPFL, Lausanne
  Laboratory for Automated Reasoning and Analysis — *Aug. 2007 - Dec. 2007*
  - Use of formal verification techniques to check relevant properties of pattern matching.
  - Specification of a pure functional Scala subset that enable precise reasoning on the language.
  - Implementation of the whole theoretical specification.
  - Joint work with Viktor Kuncak and Philippe Sutter.
  - Paper submitted to conference and publicly available at
    `http://lara.epfl.ch/dokuwiki/doku.php?id=projects:matcheck`.

School Projects

- **Auction Eleven** — EPFL, Lausanne
  Software Engineering Project — *Oct. 2005 - June 2006*
  - Analysis, design and implementation of a client-server application for auctions in real time.
  - 5-person team. Implementation in Java, ∼25'000 lines of code.

- **Threshold-Base/Market-Based Algorithms Clustering using task-allocation** — EPFL, Lausanne
  Swarm Intelligence Course Project — *Nov. 2006 - Jan. 2007*
  - Apply bio-inspired algorithms to subjects with low computational abilities to cluster objects.
  - 2-person team. Specification of a theoretical model and implementation of a simulation. ∼ 5'000 lines of code, in Java.

- **MiniScheme Compiler** — EPFL, Lausanne
  Advanced Compiler Construction — *March 2007 - June 2007*
  - Implementation of a compiler and virtual machine for MiniScheme.
  - 2-person team. Start from existing framework. Implementation in Scala and C, ∼ 4'000 lines of code.