Ömer Sinan Ağacan, CV

Personal info

I'm a first-year PhD student at Indiana University. I'm working with the programming languages team and I'm advised by Prof. Ryan Newton.

Github: https://github.com/osa1
Blog: http://osa1.net

Open Source Contributions

- GHC: I'm regularly fixing bugs and doing miscellaneous improvements on the code base. Our ICFP 2015 paper was a GHC RTS extension. I'm currently implementing a new GHC extension called `UnboxedSums` for improving performance of certain programs. It can be seen in my Github account(ghc/unboxed-sums branch).

- GHCJS: I worked on GHCJS during Google Summer of Code 2015. I implemented GHC's profiling features for GHCJS.

- K Framework: During my internship at UIUC, in addition to fixing bugs and doing maintenance work, I designed and implemented ktest tool from scratch. ktest is a program specifically designed for testing K definitions.

- More: I have a long history of open-source contributions. Please see my Github account for more.

Publications

- Ömer S. Ağacan, Sam Tobin-Hochstadt, Peter Fogg, Ryan R. Newton. Parallel Type-checking with Haskell using Saturating LVars and Stream Generators. In the 21st annual ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming. March 2016.

- Edward Z. Yang, Giovanni Campagna, Ömer S. Ağacan, Ahmed El-Hassany, Abhishek Kulkarni, Ryan Newton. Efficient communication and Collection with Compact Normal Forms. In Proceedings of the 20th ACM SIGPLAN International Conference on Functional Programming. September 2015.

- Michael D. Adams and Ömer S. Ağacan. Indentation-sensitive parsing for Parsec. In Proceedings of the 2014 ACM SIGPLAN Symposium on Haskell, Haskell '14, pages 121–132. ACM, New York, NY, USA, September 2014. ISBN 978-1-4503-3041-1. doi: 10.1145/2633357.2633369.

Talks

- Rebooting Supercompilation for Haskell. Haskell Implementors Workshop 2015.

Experience

- Indiana University, PhD student. 2015 - present:
  I'm a PhD student and research assistant. My research involves working on GHC to make Haskell programs run faster.

- Runtime Verification. 2014, 4 months:
  I worked on K Framework as a software engineer. This is a continuation of my previous work done during my internship at University of Illinois at Urbana-Champaign.

  I was responsible for maintaining ktest, a testing framework specifically crafted for K Framework's needs, and implementing new intermediate language for the compiler.

- Google Summer of Code for Haskell. 2014, 3 months:
  I implemented GHC's profiling features(cost-centres, emulated call stacks) for GHCJS, JavaScript backend for GHC. My work is still in use today.

- Soostone - 2014, 3 months:
  I worked as a Haskell software engineer.

- University of Illinois at Urbana-Champaign. 2013, 3.5 months: (Internship)
  I worked at Formal Systems Laboratory under supervision of Prof. Grigore Rosu. I worked on K Framework, a rewrite-based executable semantics framework for programming languages, type systems and formal analysis tools.

- Ozyegin University, Istanbul, Turkey. 2013, 3.5 months:
  3.5-month internship under supervision of Prof. Baris Aktemur: Developed an interpreter for a statically typed multi-staged programming language with subtyping, row polymorphism and type inference. Performed extensive literature reading. Implemented in OCaml.

- OBSS, Istanbul, Turkey. 2012, 3.5 months:
  3.5-month internship: I developed a simple static analysis tool for GrayMound, a Java framework based on J2EE and an Eclipse plugin.

- TUBITAK (The Scientific and Technological Research Council of Turkey), Kocaeli, Turkey. 2010, 4 weeks:

4-week internship: Developed the web front-end for PiSi, package manager of Pardus(a GNU/Linux distribution).