Peng Fu

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Education

- Ph.D. Department of Computer Science, the University of Iowa, Iowa City, USA. August 2014.
- B.Eng. School of Computer Science, Huazhong University of Science and Technology, Wuhan, China. July 2009.

Position

- Postdoctorial Research Assistant, University of Dundee, Dundee, Scotland. Oct 2014.

Research Areas

Type inference, lambda calculus, type theory, interactive theorem proving and functional programming language.

Publications

- "Self Types for Dependently Typed Lambda Encodings". Peng Fu, Aaron Stump. RTA-TLCA 2014: Joint 25th International Conference on Rewriting Techniques and Applications and 12th International Conference on Typed Lambda Calculi and Applications.
- "Equational Reasoning about Programs with General Recursion and Call-by-value Semantics". Garrin Kimmell, Aaron Stump, Harley D. Eades III, Peng Fu, Tim Sheard, Stephanie Weirich, Chris Casinghino, Vilhelm Sjoberg, Nathan Collins, Ki Yung Ahn. Progress in Informatics, No. 10, March 2013, pages 19-46. Journal version of PLPV '12 paper.
- "Equational Reasoning about Programs with General Recursion and Call-by-value Semantics". Garrin Kimmell, Aaron Stump, Harley D. Eades III, Peng Fu, Tim Sheard, Stephanie Weirich, Chris Casinghino, Vilhelm Sjöberg, Nathan Collins, Ki Yung Ahn. PLPV 2012.
- "Irrelevance, Heterogeneous Equality, and Call-by-value Dependent Type Systems". Vilhelm Sjöberg,Chris Casinghino, Ki Yung Ahn, Nathan Collins, Harley D. Eades III, Peng Fu, Garrin Kimmell, Tim Sheard, Aaron Stump, Stephanie Weirich. MSFP 2012.

- "A Framework for Internalizing Relations into Type Theory". Peng Fu, Aaron Stump, Jeff Vaughan. PSATTT'11: International Workshop on Proof-Search in Axiomatic Theories and Type Theories (2011).

Projects

- The Gottlob System (December 2013 - 2014). A prototype system for verified programming and theorem proving. Source code available from: `https://github.com/Fermat/Gottlob`
- The TRELLYS Project (2010 - 2013). Contributions:
  1. Implemented a simple type checker for a core language called SepCore. Source code (in Haskell) available from:
     `https://code.google.com/p/trellys/source/browse/trunk/lib/sep-core/`
  2. Implemented a dependently typed version of AVL tree in Iowa-Trellys. Source code available from:
     `https://code.google.com/p/trellys/source/browse/trunk/lib/sepp/Tests/unittests/avltree2.sep`

Teaching Experience

- Teaching Assistant, "Programming Language Concepts", 2013 Spring, 2014 Spring. Department of Computer Science, The University of Iowa.
- Teaching Assistant, "Object-Oriented Software Development ", 2013 Fall. Department of Computer Science, The University of Iowa.
- Teaching Assistant, "Computer Networking", 2009 Fall. Department of Computer Science, The University of Iowa.

Additional Skills

Haskell (intermediate, since 2012), C (intermediate, since 2006), Java (intermediate, since 2007).