Curriculum vitae of Jan Hubička

Name: Jan Hubička
Born: 01/04/1978, Tábor, Czech Republic
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Education:

High shool in České Budějovice with focus on mathematics, 1996

Master Degree in Computer Science, 2002
Faculty of Mathematics and Physics, Charles University in Prague
Thesis: Ramsey Properties of Universal Sets, advisor Jaroslav Nešetřil

PhD Degree in Computer Science, 2010
Faculty of Mathematics and Physics, Charles University in Prague
Thesis: Combinatorial Properties of Finite Models, advisor Jaroslav Nešetřil

Employment history:

- Senior software developer at SUSE ČR s.r.o, Prague, 2000–2013

- Research fellow at Institute of Theoretical Computer Science, Charles University, Prague, 2003–2011

- Research fellow at Computer Science Institute, Charles University, Prague, 2012–2013

- PIMS Postdoctoral Fellow, University of Calgary, 2013–2014

Teaching experience:

- Teaching assistant of discrete mathematics in 2002–2004

- Teaching assistant of algorithms in 2004–2007, 2009

- Lecturer of seminar about advanced code optimization techniques used in industrial strength compilers 2003–2008

- Lectures on advanced code optimization techniques used in industrial strength compilers 2008–2013

- Lecturer of workshops on digitizing historical photography 2009–2010

Master degree students (finished):

- Martin Jambor: Optimizations in the GNU Compiler Collection targeted at scientific computing, 2005–2007

- Ondřej Bílka: Pattern Matching in Compilers, 2011–2012

- Martin Liška: Optimizing large applications, 2012-2013

Current students:

- Ondřej Bílka: Optimizing dynamic and functional languages, PhD degree

Membership in program committees:

- GREPS: International Workshop on GCC for Research in Embedded and Parallel Systems, 16th International Conference on Parallel Architectures and Compilation Techniques (PACT), Brasov, Romania, 2007

- Legacy of three color photography, Prague, 2008

- GCC Research Opportunities, 4th International Conference on High-Performance Embedded Architectures and Compilers (HiPEAC), Paphos, CYPRUS, January 25-28, 2009

- 2nd International Workshop on GCC Research Opportunities, HiPEAC 2010, Pisa, 2010

- GROW 2011: 3rd International Workshop on GCC Research Opportunities, CGO, Chamonix 2011

- GNU Cauldron, Prague, 2012

Presentations (selected):

- x86-64 support in GCC. Paper presentation at GCC Summit conference, Ottawa, 2003

- Call graph module in GCC (framework for intra-procedural optimization). Paper presentation at GCC Summit conference, Ottawa, 2004

- Profile driven optimizations in GCC. Paper presentation at GCC Summit conference, Ottawa, 2005

- Interprocedural optimization on function local SSA form in GCC. Paper presentation at GCC Summit conference, Ottawa, 2006

- Profile Driven Optimizations in GCC. Tutorial talk at Moscow GCC on Itanium Improvement Workshop, 2006

- Finite Paths are Universal. Presentation of joint result with Jaroslav Nešetřil, COMBSTRU final workshop, Barcelona, 2006

- Preparing of Albumen Paper. Tutorial talk at Historické fotografické techniky/Edeldrucke, Jindřichův Hradec, 2006

- Interprocedural Optimization Framework. Tutorial talk at GCC track of Gelato ICE, 2007

- Interprocedural optimization framework in GCC. Paper presentation at GCC Summit conference, Ottawa, 2007

- Color works of Bohumil Štastný. Talk at Legacy of three color photography, Prague, 2008

- Digitizing Historical Negatives. Talk at 9. konference Archivy, knihovny, muzea v digitálním světě, Prague, 2008

- Universal structures as shadows of ultrahomogeneous structures. Presentation of joint results with Jaroslav Nešetřil at Fete of Combinatorics and Computer Science 2009, Keszthely, Hungary, 2009

- Optimizing real world applications with GCC Link Time Optimization, Paper presentation at GCC Summit conference, Ottawa, 2010

- Some examples of universal and generic partial orders. Presentation of joint results with Jaroslav Nešetřil at Young Researchers Forum, MFCS, 2010

- Link time optimization in GCC. Talk at OpenSUSE conference, Nuernberg, 2011

- Explicit construction of universal structures as shadows of ultrahomogeneous structures. Presentation of joint results with Jaroslav Nešetřil at LMS Northern Regional Meeting and Workshop on Homogeneous Structures, Leeds 2011

- Digital processing of early color photography. Talk at OpenSUSE conference,
Nuernberg, 2011

- Ranná barevná fotografie. Talk at Archivy, knihovny a muzea v digitálním světě, 2011

- Constrained homomorphism orders. Presentation of joint results with J. Fiala and Y. long at ČS Grafy 2012, Litomyšl, 2012

- Constrained homomorphism orders. Presentation of joint results with J. Fiala and Y. long at 2012 Shanghai Conference on Algebraic Combinatorics, Shanghai, 2012

- Locally injective homomorphisms are universal. Presentation of joint results with J. Fiala and Y. long at 2nd Workshop on Homogeneous Structures, Prague, 2012

- Constrained homomorphism orders. Presentation of joint results with J. Fiala and Y. long at Bordeaux Graph Workshop, Bordeaux, 2012

- Combinatorial bounds on relational complexity. Presentation of joint results with D. Hartman and J. Nešetřil, EUROCOMB, Pissa, 2013

Other activities:

Senior GCC Developer, at SUSE ČR, s.r.o.
Maintainer of interprocedural optimizations, profile feedback and estimation and co-maintainer of the i386/x86-64 backend in the GNU Compiler Collection

Project of digitization archive Šechtl and Voseček
Software, web pages, historical research, co-authoring texts for exhibitions, preparing digital prints from historical negatives and cooperating on preparing the exhibitions.

Software projects (selected):

- Koules (game), 1993–1995

- XaoS (realtime fractal zoomer), 1995–1999

- AA-project (ASCII art library and tools), 1997–2000

- GNU Compiler Collection (GCC) i386 backend improvements, 1997–2000

- Profile driven optimizations in GCC, 1998–2003

- Port of GCC to x86-64 architecture, Architecture Binary Interface design, 2000–2013
  (this included designing of the first x86-64 toolchain)

- Interprocedural optimization framework in GCC, 2004–2012

- Incremental scalable link-time optimization framework in GCC, 2009–2013