

TIMOTHY J. HARVEY

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Education

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| 2003 | PhD in Computer Science, Rice University, Houston, Texas
Dissertation: "An experimental analysis of a set of compiler algorithms"
Advisor: Keith D. Cooper, PhD |
| 1998 | Master of Science in Computer Science, Rice University, Houston Texas
Thesis: "Reducing the impact of spill code"
Advisor: Keith D. Cooper, PhD |
| 1988 | BA Computer Science, Rice University, Houston, Texas |

Research Interests

Data-flow analysis. Code transformations. Architectural considerations in middle- and backend compiler design. Engineering issues in compilers. Empirical analysis of algorithms. Code obfuscation. Adaptive compilation. Randomized code generation.

Experience

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| 1991–present | Research Programmer, Rice University <ul style="list-style-type: none"> • Developed and maintain the Iloc compiler • Support the research activities of graduate students, postdocs, and researchers |
| 1988-1991 | Programmer and Technical Lead, Planning Research Coporation, as a subcontractor with Nasa's Space Station Program <ul style="list-style-type: none"> • Maintained the document interoperability system • Developed the version-control tracking system used for space station software |

Classes Labbied (all classes labbied at least twice)

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| Comp210 | Principles of Computing and Programming <ul style="list-style-type: none"> ▪ Gave a weekly lab lecture ▪ Graded exams |
| Comp412 | Compiler Construction <ul style="list-style-type: none"> ▪ Designed and supported labs ▪ Graded labs and homeworks ▪ Lectured when instructor was unavailable |
| Comp512 | Advanced Compiler Construction <ul style="list-style-type: none"> ▪ Designed and supported labs ▪ Graded labs and homeworks ▪ Lectured when instructor was unavailable |
| Comp612 | Graduate Seminar in Compiler Construction <ul style="list-style-type: none"> ▪ Outlined the course of study (chose papers and led discussions) ▪ Presented papers in a formal setting |

Presentations

Compiler-Controlled Memory. *Proceedings of the Eighth International Conference on Architectural Support for Programming Languages and Operating Systems, San Jose, California, 1998.*

Fast Copy Coalescing and Live-Range Identification. *Proceedings of the ACM Sigplan 2002 Conference on Programming Language Design and Implementation, Berlin, Germany, June, 2002.*

Publications

Mary W. Hall, Timothy J. Harvey, Ken Kennedy, Nathaniel McIntosh, Kathryn S. McKinley, Jeffrey D. Oldham, Michael H. Paleczny, and Gerald Roth (1993). Experiences Using the ParaScope Editor: an Interactive Programming Environment. *Proceedings of the Fourth ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming.*

Preston Briggs and Timothy J. Harvey (1994). Multiplication by integer constants. *Rice Technical Report, TR03-100.*

Preston Briggs, Keith D. Cooper, Timothy J. Harvey, and L. Taylor Simpson (1998). Practical Improvements to the Construction and Destruction of Static Single Assignment Form. *Software -- Practice And Experience.*

Keith D. Cooper, Timothy J. Harvey, and Linda Torczon (1998). How To Build an Interference Graph. *Software-- Practice And Experience.*

Keith D. Cooper and Timothy J. Harvey (1998). Compiler-Controlled Memory. *Proceedings of the Eighth International Conference on Architectural Support for Programming Languages and Operating Systems.*

Zoran Budimlic, Keith D. Cooper, Timothy J. Harvey, Ken Kennedy, Timothy S. Oberg, and Steven W. Reeves: Fast Copy Coalescing and Live-Range Identification. *Proceedings of the ACM Sigplan 2002 Conference on Programming Language Design and Implementation.*

Keith D. Cooper, Timothy J. Harvey, and Todd Waterman. Building a Control-Flow Graph from Scheduled Assembly Code. *Rice Technical Report, TR02-399.*

Keith D. Cooper, Timothy J. Harvey, and Ken Kennedy. Iterative Data-flow Analysis, Revisited. *Rice Technical Report, TR04-100.*

Papers Under Review

Keith D. Cooper, Timothy J. Harvey, and Ken Kennedy. A Simple, Fast Dominance Algorithm. Being revised for resubmission to *Software – Practice and Experience.*

L. Almagor, Keith D. Cooper, Alexander Grosul, Timothy J. Harvey, Steven W. Reeves, Devika Subramanian, Linda Torczon, and Todd Waterman. Compilation Order Matters: Exploring the Structure of the Space of Compilation Sequences Using Randomized Search Algorithms. Submitted to *PLDI '04.*

L. Almagor, Keith D. Cooper, Alexander Grosul, Timothy J. Harvey, Steven W. Reeves, Devika Subramanian, Linda Torczon, and Todd Waterman. Building Adaptive Compilers. Submitted to *PLDI '04.*

Professional Membership

Association for Computing Machinery

References

Prof. Keith D. Cooper
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