# 15-745 Optimizing Compilers, Spring 2003
# Papers for In-Class Discussions

- Partial Redundancy Elimination
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  - Fred C. Chow, Sun Chan, Robert Kennedy, Shin-Ming Liu, Raymond Lo, and Peng Tu. *"A New Algorithm for Partial Redundancy Elimination Based on SSA Form,"* in *Proceedings of the ACM SIGPLAN'97 Conference on Programming Language Design and Implementation (PLDI)*, pages 273-286, June 1997.
- Pointer Analysis
  - Rakesh Ghiya and Laurie J. Hendren. *"Putting Pointer Analysis to Work,"* in *Proceedings of the 25th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages,* San Diego, California, pages 121-133, January 1998.
  - Rakesh Ghiya and Laurie J. Hendren. *"Is it a Tree, a DAG, or a Cyclic Graph? A Shape Analysis for Heap-Directed Pointers in C,"* in *Proceedings of the 23rd ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages,* St. Petersburg, Florida, pages 1-15, January 1996.
  - Maryam Emami, Rakesh Ghiya, and Laurie J. Hendren. *"Context-Sensitive Interprocedural Points-to Analysis in the Presence of Function Pointers,"* in *Proceedings of the ACM SIGPLAN '94 Conference on Programming Language Design and Implementation,* pages 242-256, June 1994.
  - Robert P. Wilson and Monica S. Lam. *"Efficient Context-Sensitive Pointer Analysis for C Programs,"* in *Proceedings of the ACM SIGPLAN'95 Conference on Programming Language Design and Implementation,* pages 1-12, June 1995.
- Eliminating Memory References
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  - Raymond Lo, Fred Chow, Robert Kennedy, Shin-Ming Liu and Peng Tu. *"Register Promotion by Sparse Partial Redundancy Elimination of Loads and Stores,"*, in *Proceedings of the ACM SIGPLAN '98 Conference on Programming Language Design and Implementation,* pages 26-37, June 1998.

- Profiling Techniques
  - Thomas Ball and James R. Laurus. *"Efficient Path Profiling,"* in *Proceedings of the 29th Annual IEEE/ACM International Symposium on Microarchitecture*, pages 46-57, December 1996.
  - James R. Larus. *"Whole Program Paths,"* in *Proceedings of the ACM SIGPLAN '99 Conference on Programming Language Design and Implementation*, pages 259-269, May 1999.
  - Jennifer M. Anderson, Lance M. Berc, Jeffrey Dean, Sanjay Ghemawat, Monika R. Henzinger, Shun-Tak A. Leung, Richard L. Sites, Mark T. Vandevoorde, Carl A. Waldspurger and William E. Weihl. *"Continuous Profiling: Where Have All the Cycles Gone?,"*, in *Proceedings of the Sixteenth ACM Symposium on Operating Systems Principles,* pages 1-14, October 1997.
- Exploiting Profiling Information in Data Flow Analysis
  - Glenn Ammons and James R. Larus. *"Improving Data-Flow Analysis with Path Profiles,"* in *Proceedings of the ACM SIGPLAN '98 Conference on Programming Language Design and Implementation,*pages 72-84, June 1998.
  - Robert Cohn and P. Geoffrey Lowney. *"Hot Cold Optimization of Large Windows/NT Applications,"* in *Proceedings of the 29th Annual IEEE/ACM International Symposium on Microarchitecture,* pages 80-89, December 1996.
- Dynamic Optimizations
  - Vasanth Bala, Evelyn Duesterwald and Sanjeev Banerjia. *"Dynamo: a Transparent Dynamic Optimization System,"* in *Proceedings of the ACM SIGPLAN '00 Conference on Programming Language Design and Implementation,* pages 1-12, June 2000.
  - Brian Grant, Matthai Philipose, Markus Mock, Craig Chambers and Susan J. Eggers. *"An Evaluation of Staged Run-Time Optimizations in DyC,"* in *Proceedings of the ACM SIGPLAN '99 Conference on Programming Language Design and Implementation,* pages 293-304, May 1999.
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  - Alexander Klaiber. *"The Technology Behind Crusoe Processors,"* Transmeta Corporation, `http://www.transmeta.com/crusoe/technology.html`.
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- Improving Data Cache Performance
  - Trishul M. Chilimbi, Bob Davidson, and James R. Larus. *"Cache-Conscious Structure Definition,"* in *Proceedings of the ACM SIGPLAN '99 Conference on Programming Language Design and Implementation,* pages 13-24, May 1999.
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- Code Layout Optimizations
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  - C. Young, D. Johnson, D. Karger, and M. Smith, *"Near-optimal Intraprocedural Branch Alignment,"* in *Proceedings of the ACM SIGPLAN 1997 Conference on Programming Language Design and Implementation,* pages 183-193, June 1997.
- IA-64 from a Compiler Optimization Perspective
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- Debugging Optimized Code
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