CS 738 Course Contents and References:

Contents:

Introduction to Advanced topics, Compiler Algorithms Notation, Symbol table structure, Intermediate representation, Run time support, Producing code generators automatically, Control flow analysis, Data flow analysis, Dependence analysis and dependence graphs, Alias analysis, Introduction to optimizations, Early optimizations, Redundancy elimination, Loop optimizations, procedure optimizations, Register allocation, Code scheduling, control flow and low level optimizations, Inter procedural Analysis and optimizations, Optimization for memory hierarchy, Case studies.

Books and References:


Utpal Banerjee. *Dependence analysis for supercomputing*.

Wolfe. *Optimizing Supercompilers for Supercomputers*.

Ellis. *Bulldog: A Compiler for VLIW Architectures*.


Hecht. *Flow Analysis of Computer Programs*.

Research Papers.

Journals:

- International Journal of Parallel Programming
- Journal of the ACM
- Communications of the ACM
- ACM Transactions on Programming Languages
- IEEE Software
- IEEE Computer
- IEEE Transactions on Computers
- IEEE Transactions on Parallel and Distributed Systems
- IEEE Transactions on Software Engineering
- IBM Journal of Research and Development
- IBM Systems Journal
- SIAM Journal of Computing
- SIGPLAN Notices
Proceedings of:

- International Conferences on Parallel Processing
- Proceedings of International Conf on Software Engineering
- Lecture Notes in Computer Science series.
- Proceedings of ACM Computer Science Conference
- Proceedings of SIGPLAN conference on Programming Language Design and Implementation
- ACM Transactions on Programming Languages and Systems
- ACM Symposium on Principles of Programming Languages
- Proceedings SIGPLAN Symposium on Compiler Construction
- Annual International Symposium on Computer Architecture
- International Parallel Processing Symposium, IEEE Computer Society.