

## Objective

A hard working intellectual with 6 years of academic experience focussed on application performance improvements using Machine Learning on compiler optimizations. Before joining graduate school I had been fortunate enough to have experienced and helped build startup companies on more than one occasion. I am looking for a challenging environment to apply my research and industry experience to build creative and exciting solutions to real world problems.

## Research Interests

Machine Learning, Compiler Optimizations, Code Generation, Auto Tuning, and Performance Analysis.

## Education

### University of Delaware

Ph.D., Computer and Information Science

*Improving compiler optimizations using Machine Learning*

*Expected Summer 2014*

Advisor: John Cavazos, Ph.D

### Army Institute of Technology, India

B.E., Computer Engineering

May 2005

## Research Experience in Academia

### University of Delaware

Computer and Information Sciences (Research Assistant)

Aug 2008 to present

Supervisor: John Cavazos, Ph.D

### University of Delaware

Computer and Information Sciences (Research Assistant)

Aug 2007 to May 2008

Supervisor: Tim Bunnell, Ph.D

## Research Experience in the Industry

### J. P. Morgan and Chase

Quantitative Analytics (Intern)

May 2013 to Jan 2014

Supervisor: Elenita Silverstien.

### Oracle Inc

Oracle Labs (Research Assistant)

May 2012 to Jul 2012

Supervisor: Mario Wolczko, Ph.D

### Oracle Inc

Oracle Labs (Research Assistant)

May 2011 to Jul 2011

Supervisor: Mario Wolczko, Ph.D

## Industry Experiences

### Microsoft Inc.

Microsoft Office Licensing (Software Development Engineer Intern)

May 2008 to Jul 2008

Supervisor: Sanjay Garg

### Symphony Services

Online Data Backup (Sr. Software Developer)

Mar 2007 to Jul 2008

Supervisor: Nikhil More

### Spanco Telesystems

Mobile Messaging Platform (Software Developer)

May 2006 to Dec 2006

Supervisor: Amar Sinha, Keyur Karnik

### Redknee Inc.

Mobile Voice and Messaging (Member R & D)

May 2005 to May 2006

Supervisor: Theban Ganesh

## Refereed Publications

1. **Kulkarni, S.** "Compiler Autotuning: Predictable Performance Gains with efficient coding" *PING*, 2014.
2. **Kulkarni, S.**, Cavazos, J., Wimmer, and C., Simon, D. "Automatic Construction of Inlining Heuristics using Machine Learning" *CGO*, 2013 ([link to PDF](#)).
3. **Kulkarni, S.** and Cavazos, J. "Mitigating the Compiler Optimization Phase-Ordering Problem Using Machine Learning." *OOPSLA*, 2012. ([link to PDF](#)).
4. Wang, Q., **Kulkarni, S.**, Cavazos, J., and Spear, M. "A Transactional Memory with Automatic Performance Tuning" *ACM-TACO / HIPEAC*, 2012. ([link to PDF](#)).
5. Park, E., **Kulkarni, S.**, and Cavazos, J. "An Evaluation of Different Modeling Techniques for Iterative Compilation." *CASES*, 2011. ([link to PDF](#)).
6. Wang, Q., **Kulkarni, S.**, Cavazos, J., and Spear, M. "Towards Applying Machine Learning to Adaptive Transactional Memory." *TRANSACT*, 2011. ([link to PDF](#)).
7. Park, E., **Kulkarni, S.**, and Cavazos, J. "An Evaluation of Different Modeling Techniques for Iterative Compilation." *SMART*, 2011. ([link to PDF](#)).
8. **Kulkarni, S.** and Ali, L. "An Evaluation of Different Modeling Techniques for Iterative Compilation." *CCNC*, 2006. ([link to PDF](#)).
9. **Kulkarni, S.**, Diwan, S., and Bansode, N. "Device Independent Mobile Application Controller For Remote Administration Of A Server Over A GPRS Link Using a J2ME Cellular Phone" *INDICON*, 2004. ([link to PDF](#)).

## Skills

**Programming Languages:**

C, C++, Java, Lisp, UNIX shell, GNU make, SQL, Ruby.

**Compiler Frameworks:**

JikesRVM, Java HotSpot VM, Maxine VM, LLVM, GCC.

**Data Mining:**

Weka, ECJ, ANJI.

**Profiling/Performance Analysis:**

Valgrind, JProfiler, gProf.