KSHITIJ MARWAH
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EDUCATION

Masters in Media Arts and Sciences, Massachusetts Institute of Technology, Cambridge, USA (2011 – 2013)

Bachelors and Masters in Computer Science and Engineering, Indian Institute of Technology, Delhi, India (2005 - 2010)

MASTERS THESIS

Context-sensitive Ontology Alignment over Massive Datasets (Aug '09 – May '10) *Advisor* : Dr. Gil Alterovitz, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, MA, USA

RESEARCH EXPERIENCE

Department of Computer Science, Stanford University, CA, USA (March '10 – May '10)
Devised and deployed a distributed machine learning algorithm for aligning large ontologies over massive datasets.

Biomedical Cybernetics Laboratory, Harvard Medical School, Harvard University, MA, USA (Dec'09 – Jan '10)
Worked on an efficient algorithm for automating knowledge propagation and interpretation over a citation network.

Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, MA, USA (May '09 – Sep '09 and Sep '10 – Dec '10)
Devised and implemented an optimal parallel algorithm for information theoretic restructuring of domain graphs. Also, worked on optimizing program analysis techniques in a directed random testing system.

INDUSTRIAL EXPERIENCE

IBM, India Research Laboratory, Delhi, India (Sep'09 – Dec'09)
Designed and implemented the centralized layer and authentication protocol for Spoken Web interface for facilitating financial transactions amongst customers and businesses using hand held devices.

ST Microelectronics, Delhi, India (May '08 – July '08)
Implemented efficient computer vision algorithms on a system on chip for a major smartphone manufacturer.

Google, Research and Development, Bangalore, India (March '07 – April '07)
Worked on the product design of an online code sharing and execution framework. Won an award for presentation of the implemented project in the Google Product Engineering Conclave amongst all international entries.

CURRENT PROJECTS

Compressive Light Field Photography On Mobile Platforms (Sep '11 – May '12)
A novel camera design for the first full spatial and angular resolution light field photography allowing digital refocusing at high definition and novel view point changes on a mobile device.

Scaled Reality: Interfaces For Augmenting Information On Physical Objects (April '12 – June '12)
Developing a new paradigm for distort, deform, magnify or contract our reality to help us augment information on tangibles that our inaccessible due to size, orientation or build of the object.

Context-Sensitive Ontology Alignment Over Massive Datasets (November '10 – August '11)
A tera-scale distributed machine learning algorithm and implementation to link available silos of biomedical knowledge to allow power of all biological data on various experiments.

dBabel: Programming Language Interoperability In Distributed Computing Environments (Sep '09 – May '10)
A distributed code sharing platform that enables interoperability across programming languages and operating systems by a unified interactive middleware for seamless collaboration and execution.

PUBLICATIONS

Compressive Light Field Photography, ACM Siggraph Talks 2012, Los Angeles

Analysis of Non-Adaptive Projective Visual Signal Sampling, COSI 2012, Monterey

Context-Sensitive Ontology Alignment Over Massive Datasets, Oral Presentation at AMIA 2012, San Francisco

VisionBlocks: A Social Computer Vision Framework, IEEE Social Com 2011 organized at MIT

dBabel : A Distributed Code Sharing Platform, won at Pacific Symposium on Biocomputing, 2009 at Stanford University