Sameer Surendra Jagdale

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EDUCATION

- McGill University — Montreal, Quebec
  Master of Science, Computer Science, **GPA: 3.86** — September 2012- May 2015
- University of Pune — Pune, India
  Bachelor of Engineering, Information Technology, **GPA: 3.70** — August 2008 - May 2012

CAREER-RELATED EXPERIENCE

McGill University — Montreal, Quebec
Teaching Assistant, for Operating Systems and Program analysis and Transformations — Winter and fall 2013

- **Operating Systems**: Helped students understand fundamental components of operating systems such as file system, inter-process communication, multi-threading et al.
- **Program Analysis and Transformations**: Mentored a student's course project on sparse matrix optimisation. Helped students understand the various flow analysis techniques and implement them for MATLAB using Sable lab's McLab toolkit.

Tata Consultancy Services — Pune, India
Project trainee — June 2011- July 2012

System to determine plasma temperature using real- time image processing

- Developed as part of my senior year project course. The project involved development of a prototype that calculated the temperature, in real time, of plasma during a nuclear fusion reaction from images captured from a high resolution camera. A GPU was used to enable high speed processing.
- Developed in C++ and utilized the OpenCV library for the image processing module and the OpenCL framework for GPU interfacing. GTK2 was used to develop the GUI.

TECHNICAL SKILLS

- Proficient in C++, C, Java
- Basic knowledge of Python, SQL, HTML, JavaScript.
- Courses: Computer Networks, Distributed Systems, Compiler optimisation, Operating systems, Algorithms.

MASTER'S THESIS

Sable Research Lab, McGill University — Montreal, Quebec
Research Assistant — May 2013-Present

VeloCty: An optimising static compiler for Array-based languages.

- VeloCty compiles functions written in high-level array-based languages such as Matlab and Python to optimised C++ for improved performance. Functions are packaged as shared libraries that can be called from the source language, allowing users to continue writing code in their preferred high-level language while compiling specific hot methods to parallel code.
- Various optimisations such as elimination of redundant memory allocations and bounds check elimination implemented.
- Project was implemented in C++ and Java. Carried out under the supervision of Prof. Laurie Hendren.

COURSE AND HOBBY PROJECTS

Distributed Itinerary Management System

- Designed the system to distribute its core workload across separate servers for flight, car and hotel booking and implemented middleware for client interaction.
- Used Java's Remote method invocation API to establish communication between different servers.
- Implemented transaction management and two-phase commit to ensure conformance to ACID properties.

AutoGrader

- Implemented as a personal project. Developed to ease grading assignments in the Operating Systems course.
- Written in Python, the program parses source files and output of assignments for keywords and values.