# VINEET KUMAR

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## WORK EXPERIENCE

**ISENCORE Technologies** — September 2013 - Current
*Lead Software Architect* — *Montreal, QC, Canada*
· As a part of the core founding team, I Lead the software design and development efforts at the company.
  · Won first prize in the **Mcgill Dobson cup** 2014 startup competition.
  · Implemented (**in C**) the 3D object discretization module for **Quirdity**, ISENCORE's 3D simulation engine.
  · Developing (**in Java/Play framework**) the cloud-based delivery system for **Quirdity**.

**McGill University** — January 2012 - April 2014
*Research and Teaching* — *Montreal, QC, Canada*
· **Research Assistant, Sable Lab** - My research included program analysis and static compilation of dynamic languages.
  · Designed and developed (**in Java**) MiX10 : a MATLAB to X10 compiler for high-performance, under **Prof. Laurie Hendren's** supervision and with direct inputs from the X10 **design team at the IBM T.J. Watson research center**.(*bit.ly/1sZ8aqJ*)
  · Achieved **7 times (mean) faster** performance compared to the standard MATLAB implementation.
  · Discovered **2 bugs** and a **severe performance bottleneck** in the X10 compiler.
· **Teaching Assistant** - Program Analysis and Transformations, Compiler Design, and Introduction to Computer Systems.

**Infosys Technologies Ltd.** — September 2008 - August 2011
*Senior Systems Engineer* — *Pune, India*
· **Led** a team of 4 for **deployment performance management** for AT&T's online and mobility frontend and backend applications.
  · My team's job was to design and develop (**in C**) performance test scripts, analyze results, and troubleshoot performance issues.
  · Worked on 8 projects and they all exceeded performance SLA under peak loads.

**MySmartPrice** — October 2010 - July 2011
*Developer (part-time)* — *Pune, India*
· MySmartPrice is an Indian **e-commerce startup** that provides a price comparison engine for online stores.
  · Contributed in the design and development of their core crawler algorithm.

**Sun Microsystems** — January 2007 - May 2008
*Intern - Student Tech Lead, APAC region/Campus Ambassador* — *Bangalore, India*
· Promoted from being one of the **only 27 Campus Ambassador across India** to one of the **only 5 Tech Leads worldwide**.
  · Conducted webinars and developed tutorials for Campus Ambassadors worldwide.
  · **Taught** a certificate course on **OpenSolaris** at the University.

## PUBLICATIONS AND TALKS

· *Publication:* Vineet Kumar and Laurie Hendren. MiX10 : Compiling MATLAB to X10 for High Performance. Paper accepted to be published in proceedings of **OOPSLA 2014**.(technical report at *http://bit.ly/1qlhG7V*)
· *Talk:* Vineet Kumar and Laurie Hendren. MiX10 : Compiling MATLAB for high performance computing via X10 . 12th **Compiler-Driven Performance Workshop** at **CASCON 2013**.(*bit.ly/1hXms8N*)
· *Publication:* Vineet Kumar and Laurie Hendren. First steps to compiling MATLAB to X10 . In Proceedings of the 2013 ACM SIGPLAN X10 Workshop, **X10 '13** co-located with **PLDI 2013**.(*bit.ly/18owBUI*)

## EDUCATION

**McGill University** — April 2014
*M.Sc. in Computer Science (CGPA: 3.56/4.00)* — *Montreal, QC, Canada*
· Master's thesis reviewed as **"Excellent"** by the external reviewer.
· Won the summer differential fee waiver for being among the top-performing international students in the University.

**SASTRA University** — June 2008
*B.Tech. in Computer Science & Engineering (CGPA: 8.93/10.00)* — *Thanjavur, India*
· Won the Dean's list scholarship for being among the **top 10%** students in the University.
· **Co-founded and led** GLOSS(GNU Linux & Open Source at SASTRA) club of the University.
· **Executive member** and **member of the editorial team** of the Student Association of School of Computer Science.

## SELECTED OTHER PROJECTS

· FreeMeLegal: An Open source license recommendation engine (COMP 762 Recommender systems, individual).(*bit.ly/1m030GV*)
  · Recommendations based on similarities with the top projects on Sourceforge.net.
  · Implemented a crawler (in PHP) to collect data for top projects on Sourceforge.net.
· Performance Analysis and comparison of ZeroMQ and TCP (COMP 535 Computer networks, team of three).(*bit.ly/1m0dcPE*)
  · Implemented a ZeroMQ based P2P chat system and compared its throughput and latency to a TCP based P2P chat system.
· Analysis to identify complex numerical values for MATLAB programs (COMP 621 Program analysis, individual).(*bit.ly/15SYKmC*)
  · Developed a language to express information propagation through library function calls.(*bit.ly/1ezq93q*)
  · Accurate results for all the 20 benchmarks used by the McLab project.