PRASANTH JAYACHANDRAN

CONTACT INFORMATION

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INTERESTS

Large-scale distributed systems, big data analytics, data mining

EDUCATION

The Ohio State University, Columbus, USA **| 2011 - 2013**
MS in Computer Science and Engineering
- Graduate Teaching Assistant – Advanced Database Management Systems and Data Structures using Java
- Graduate Research Assistant - Database Research Group
- Graduate Assistant – Advanced Computing Center for Arts and Design
- Specialization – Distributed Systems and Large Scale Data Analytics
- Current GPA - 3.54 on a scale of 4.0

BITS-Pilani, India | **2004 - 2008**
BE (Honors) in Computer Science
- Cumulative GPA - 7.59 on a scale of 10.0

EXPERIENCE

Google Summer of Code - 2012 | Student Developer **| 3 months**
CUBE OPERATION IN APACHE PIG | May – Aug 2012
- Implemented CUBE and ROLLUP operators in Apache Pig to support large-scale data analysis using OLAP cubes.
- Implemented MR-Cube algorithm for distributed cubing on holistic measures.
- Project related JIRAs PIG-2167, PIG-2710, PIG-2726, PIG-2765, PIG-2814, PIG-2831.

Samsung Electronics, India **|** Senior Software Engineer **| 3 yrs 1 month**
NETWORK PERSONAL VIDEO RECORDER | Dec 2010 – Aug 2011
- Implemented XQuery query generation engine with support for string and expression based searches using FLWOR clauses.
- Implemented event notification and subscription services for scheduled recording and content directory services in DLNA stack.

3D GAME PLATFORM | Jul – Nov 2010
- Implemented an optimized native rendering interface using SDL.
- Developed Lua-SDL abstraction layer using SWIG to expose SDL APIs to Lua.

EBOOK FRAMEWORK | Jan – Jun 2010
- Implemented color mapping module that converts RGB color values received from the application to 4bpp grayscale format.
- Developed file browser and file synchronization application using wxWidgets.

RICH USER INTERFACE WIDGET FRAMEWORK | Jul – Dec 2009
- Developed Mind Map application for DTV using Lua-SDL.
- Improved the runtime performance of Lua script on ARM (~40% improvement for Lua SciMark benchmark) using LLVM-Lua.
- Implemented a mechanism for flushing the Instruction Cache using ARM assembly language for Just-In-Time interpretation of LLVM byte code.

INTERACTIVE WEB ENGINE | Aug 2008 – Jun 2009
- Developed scriptable plug-in using Netscape Plug-in Application Program Interface for handling PDF files inside webkit based browser.
- Implemented DirectFB blit function using NEON intrinsic which improved the performance by ~30%.

SAP Labs, India **| Intern | 6 months**
LEAN DEVELOPMENT ENVIRONMENT | Jan – Jun 2008
- Developed commercial quality plug-in in SAP Net Weaver IDE for managing the life cycle of Jetty. It reduced the turnaround time for application development by more than 50% as it eliminated most of the time spent on non-core activities like build and deployment.

COURSE PROJECTS

The Ohio State University, Columbus, USA
INTERACTIVE ANALYSIS OF ONLINE AGGREGATION QUERIES | Apr – May 2012
Course: *Intermediate Studies in Data Interaction*
- Implemented an application for online interactive analysis of aggregate queries using Apache Pig and in-memory SQLite database.
- Implemented data distribution and OLAP cube lattice visualization using d3.js.

MAP-SIDE FRAGMENT REPLICATED HASH JOIN IN YSMART | Jan – Mar 2012
Course: *Intermediate Studies in Large Scale Distributed Systems for Big Data Analysis*
- Implemented map-side fragment replicated hash join in YSmart (a correlation aware SQL-to-MapReduce translator) using distributed cache in Hadoop with support for full outer and left outer joins.

COURSE MANAGEMENT SYSTEM | Sep – Dec 2011
Course: *Web Services based Distributed Systems Projects*
- Developed course enrolment module that enabled users to make payments using PayPal checkout.

BITS-Pilani, India
AUTOMATIC LICENSE PLATE RECOGNITION SYSTEM | Jan – May 2007
Course: *Digital Image Processing*
- Implemented modules for detecting and normalizing the number plate image.
- Developed a back propagation neural network based optical character recognition system using Matlab for identifying the alphanumerics of the license plate.

PATENTS

 "A System And Method For Controlling Display Device Using A Camera Based Device"
"A System And Method Of Generating Stereoscopic Images Using Mobile Devices"
"A System And Method Of Computing Rotation Angle And Tilt Angle By Employing An Opto-Mechanical Technique"

SKILLS

Languages: Java, C, C++, Ruby, JavaScript, Lua
Frameworks: Hadoop, MapReduce, Pig, SWIG, Ruby on Rails, d3.js
Operating Systems: Unix based systems, Mac OS X

AWARDS AND ACHIEVEMENTS

Received Best Attitude Award for the year 2010 from Samsung, India
Received merit-cum-need scholarship for the year 2004 at BITS-Pilani, India
Received the India Oil Corporation Ltd.'s scholarship from 2004-2008
Secured second position in Microsoft sponsored event Open Soft in annual technological fest Quark 2007, BITS-Pilani, India

OPEN SOURCE CONTRIBUTIONS

OLAP CUBE operation, Grunt shortcuts in Apache Pig
Pig Latin mode in CodeMirror2 with support for syntax highlighting and auto-completion.