

# PRASANTH JAYACHANDRAN

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## CONTACT INFORMATION

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## INTERESTS

Large-scale distributed systems, big data analytics, web application development

## EDUCATION

**The Ohio State University, Columbus, USA | 2011 - 2013**

MS in Computer Science and Engineering

- Specialization – Database systems with specific focus on big data analysis
- Current GPA - 3.54 on a scale of 4.0
- Expected graduation date is May 2013

**BITS-Pilani, India | 2004 - 2008**

BE (Honors) in Computer Science

- Cumulative GPA - 7.59 on a scale of 10.0

## EXPERIENCE

**Samsung Electronics, India | Senior Software Engineer | 3 yrs 1 month**

USAGE STATISTICS ANALYSIS | Jul – Aug 2011

- As a part of this research project, I was involved in setting up a small Hadoop cluster and analyzing DTV application usage from log data using Hive and Pig.

NETWORK PERSONAL VIDEO RECORDER | Dec 2010 – Jul 2011

- Implemented EPG (Electronic Program Guide) controller and SRS (Scheduled Recording Service) controller as a part of Digital Media Controller.
- Implemented XQuery query generation engine with support for FLWOR clauses, sub-string, absolute string, logical expression and comparison based searches.
- Implemented event notification and subscription services using General Event Notification Architecture for scheduled recording and content directory services.

3D GAME PLATFORM | Jul – Nov 2010

- Implemented an optimized Native Platform Rendering Interface, which will use OpenGL ES for rendering 3D graphics and SDL for rendering 2D graphics.
- Developed Lua-SDL abstraction layer using SWIG, which will expose SDL APIs to Lua scripting language.

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%.
- Developed APIs for image transition effects using GTK+.

**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 servlets for web application that executes aggregate queries on in-memory data store containing a sample of input dataset.
- Implemented syntax highlighting and auto-completion for Pig Latin using CodeMirror JavaScript library.
- Implemented data distribution and OLAP cube lattice visualization using d3.js, which provides interactive analysis of aggregation queries.

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, which will allow users to make payments through 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.

## PATENT

*"A System And Method For Controlling Display Device Using A Camera Based Device"* This patent received 'A' grade and was selected among Top 9 patents with business impact in Samsung for the year 2011.

## SKILLS

*Languages:* C, C++, Java, Javascript, jQuery, Lua, XQuery, Ruby, MySQL*Graphics Libraries:* SDL, DirectFB*Frameworks:* Hadoop, MapReduce, Hive, Pig, SWIG, Ruby on Rails, d3.js*Operating Systems:* Unix based systems, Mac OS X, WindowsAWARDS 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  
CONTRIBUTION

Naïve implementation of CUBE operator in Apache Pig (Jira issue: PIG-2167)

Pig Latin mode for CodeMirror2