Abhishek Kabra

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Summary

An experienced C++ developer with excellent analytical & problem solving skills. A passionate programmer and a software development enthusiast. Keenly interested in creating innovative and challenging software applications.

Education

University of North Carolina at Charlotte, Charlotte, NC **May 2016 Expected**
Master of Science, Computer Science GPA 4.0 / 4.0

Relevant Courses: Intelligent Robotics, Algorithms & Data Structures, Computer Graphics, Artificial Intelligence, Digital Image Processing, Software System Design & Implementation, iOS Mobile Application Development, Database Systems.

Pune University, Pune, India **2005-2009**
Bachelor of Engineering GPA 3.8 / 4.0

Technical Skills

- **Programming Languages:** C++, C++ 11, Java, Matlab, Objective C, VB 6.0, SQL, Lisp, Haskell
- **Frameworks:** OpenGL, Spring MVC, Component Application Architecture (CAA), CATIA Geometry Modeler (Kernel)
- **IDE:** Visual Studio 2015, Eclipse, X-code
- **Database:** MySQL, Oracle 10g
- **CAD Tools:** 3DExperience, CATIA V5/V6, DELMIA Process Engineer
- **PLM Tools** ENOVIA, Teamcenter
- **PMS/QMS Tools:** DIGITE, JIRA
- **Version Control:** SVN,Git

Professional Experience (4.5 Years)

University of North Carolina Charlotte, Charlotte, NC

Jan 2016 - Present

- Graduate Teaching Assistant for Digital Image Processing

Geometric Limited, Pune, India

Mar 2010 - Nov 2014

Worked on multiple software development projects in CAD, PLM & Digital Manufacturing domain for automobile and aerospace industry. Independently designed, developed and delivered with high quality. Effectively managed client communications.

Software Engineer - C++ 3D modeling CAD Applications Mar 2011 - Nov 2014

Project: 3D CAD Software Development (CATIA V5-V6)

- Designed and developed 3D modeling CAD applications
- Fixed bugs and added new features to existing applications
- Extensively used C++, STL, object oriented design principles, MVC and COM concepts
- Used CAA, CATIA Geometric Modeler (CGM) and geometric modeling concepts
- Migrated Unix Shell script to PERL script used in conversion of CAD product assembly files
- Exposure to complete SDLC i.e. requirement gathering, design, development, unit testing and software release
- Delivered project with high quality and with zero (0%) schedule or efforts variance
- Proactively led code quality initiatives using klocwork for static code analysis and refactoring

Software Engineer - PLM Applications May 2014 - Nov 2014

Project: PLM Implementation for Aerospace giant on DS 3D-Experience platform

- Evaluated OOTB Weight & Cost Roll-up and Engineering Change Management (ECM) features of 3D-Experience.
- Designed processes and solutions for engineers by configuration, extension and customization
- Worked on weight definition and weight distribution, BI Essential tools

Software Engineer – Digital Manufacturing Applications Mar 2010 - Mar 2011

Project: Digital Lean Manufacturing application development (Powertrain Assembly & Logistic)

- Worked on development of manufacturing process planning software in DELMIA process engineer (DPE)
- Implemented “Reports and Analysis Module” used in creating work instructions for manufacturing engineers and shop-floor technicians according to the process plan in DELMIA
- Extensive use of VB 6.0, DPE APIs along with SQL and XSL
- Application was deployed at 7 production sites with 400 users
- Worked on Annual Maintenance Service (AMS) project for DPE applications and was responsible for analyzing defects or change requests in production environment, implementing fix and documentation
- Received customer appreciation for defect free releases of production critical bugs

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Academic Projects, UNC Charlotte

Project 1 Artificial Potential Field path (APF) planning algorithm (Intelligent Robotics): Jan 2015- May 2015

- Implemented APF path planning algorithm in for mobile robot & 2R planar manipulator
- Developed in C++
- Used OpenGL for rendering robot configurations, created GUI using Window Forms

Project 2 Modelling & Animation (Computer Graphics): Aug 2015 – Dec 2015

- Created a 3D scene with rocks, trees & bugs using procedural methods & also implemented a behavior-based approach for animating crawling bugs
- Developed using OpenGL API, GLSL and Java

Project 3 Lane Detection (Digital Image Processing): Aug 2015 – Dec 2015

- Developed Lane detection algorithm in Matlab using Canny Edge detection & Hough transform
- Achieved accuracy of 83% on given dataset

Project 4 Map Coloring CSP (Artificial Intelligence): Aug 2015 – Dec 2015

- Implemented Forward checking algorithm with Minimum remaining value heuristic and Hill climbing local search algorithm with Min-conflict heuristic to solve map coloring constraint satisfaction problem with maximum 4 colors
- Developed a web application using HTML5, Javascript & D3 visualization library and Topojson

Project 5 Water Reservoir Management Systems (Software System Design & Implementation): Jan 2015- May 2015

- Developed a web application to monitor and manage water reservoirs
- Application was developed in JAVA using SpringMVC framework and HighCharts JS library
- Application allowed water authorities to visualize historical data and trends in graphical chart format