

Gaganpreet Singh

M.Sc., B.E. (Computer Science)
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SUMMARY

- A self-motivated and committed full-stack Software Developer.
- Proficient in SDLC, OOP, data structures, relational databases and agile development methodologies.
- Strong analytical and problem solving (root cause) skills.
- Excellent communication skills (reading, writing, speaking).
- Demonstrated ability to pick up on new technologies quickly.
- An efficient team player and willing to take ownership of core components.

EDUCATION

MASTER COMPUTER SCIENCE - University of Manitoba, Winnipeg, Canada **Sep 2015 – Aug 2017**

- A thesis based M.Sc. student graduated in August 2017.
- **Relevant Courses:** Graph and Algorithms, Bioinformatics, Computational Geometry, Computational Perception and Cognition, Research Methodologies.
- **Thesis:** Smartwatch Interaction Techniques Supporting Mobility and Encumbrance.

BACHELOR OF ENGINEERING – Punjab Technical University, Jalandhar, India **Sep 2011 – Jun 2015**

- **Relevant Courses:** Software Engineering, OOP, Operating Systems, Relational Database Management Systems, Web Technologies, Agile Software Development, Artificial Intelligence, Big Data, Computer Architecture, Computer Graphics, Computer Networks, System Programming.

RELEVANT WORK EXPERIENCE

RESEARCH ASSISTANT/DEVELOPER– HCI Lab, University of Manitoba **Sep 2015 – Aug 2017**

[Work: Android, JAVA, REST/SOAP, AJAX, JavaScript/HTML/CSS, Git, PHP]

- Developed applications for emerging wearable devices such smartwatches and smart glasses (AR/VR applications)
- Built a novel touch-gesture library for smartwatch that reduced navigation time by 50%, thus, allowing faster access to information.
- Developed a back-end server application to capture the real-time performance data from the wearable devices (using Sockets) and stored the data in SQL databases.
- Conducted both quantitative and qualitative data analysis on data gathered from focus groups, one-on-one interviews, surveys, and user experiments
- Wrote code to automate the analysis of data and visualize the information on web-interfaces using JavaScript visualization libraries such as plotly.js and D3.js

ANDROID DEVELOPER – RootWork Systems, Bangalore **Jun 2014 – Aug 2015**

[Work: Android, Angular]

- Collaborated and worked with front-end team for implementing UI and UX design. Created handset specific user interface (UI) for mobile phones and tablet PC's
- Participated in Agile Scrum meetings to provide high-level estimates for the backlog items.
- Researched on application acceptance and solicited feedback from users to make the new and existing applications more user friendly
- Worked on client-server architecture for parsing the data from REST web-services.

[Work: JAVA, C++]

- Marked assignments and tests for the Object Orientation Course
- Provided written feedback to the students regarding their assignments
- Held office hours in the help center of Computer Science department to assist under-graduate students in their assignments.

SOFTWARE DEVELOPER – Infobiz Technologies, Noida

May 2013 – Dec 2013

[Work: Java/J2EE, Bootstrap, Maven, DBMS, Git]

- Developed and deployed a web reporting software that easily integrates with multiple databases.
- Developed a user-friendly dashboard with visually aesthetic widgets that supports a wide range of user queries. It allows easy export of data-reports to PDF, Excel, HTML5, XML, and other formats.
- Significantly improved performance by optimizing the processes and tuning the complex SQL.

SOFTWARE DEVELOPER – SAFCANADA (Non-profit, Volunteer), Vancouver

Nov 2016 –Jul 2017

[Work: Java/J2EE, Tomcat/Glassfish, REST/SOAP, Git/maven, AJAX, JavaScript/HTML/CSS]

- Developed a data-base driven Java application for systematically arranging and matching the entries of the donors and recipients
- Developed Servlets & JSP pages for administrative tools, using custom tags.
- Used JavaScript for client-side validations in the JSP and HTML pages
- Performed unit testing, system testing and integration testing
- Created database tables with various constraints including primary key, foreign key, etc.
- Post-production troubleshooting and support.

TECHNICAL SKILLS

Programming Languages

- Java
- C++
- PHP
- C#

Technologies

- Android
- Phone gap
- OpenCV
- Junit
- Spring MVC

Web design

- HTML, CSS
- JavaScript
- JQuery, Ajax
- JSON, XML
- REST API
- Bootstrap

Databases

- MS SQL
- SQLite
- MySQL
- Mongo DB

JavaScript Frameworks

- Angular
- React/Redux

Version Control

- Git, Subversion

Continuous Integration

- Jenkins

IDE

- Eclipse/NetBeans
- Visual Studio

PROJECTS

CLIQUE FINDER (NP-COMPLETE) - Graphs & Algorithms - University of Manitoba

Winter 2016

Developed a full-stack software for finding maximum and maximal cliques using an optimized version of Bron Kerbosh algorithm (NP-Complete). [Java]

GEO-SPATIAL TAGGING OF OBJECTS – Computer Vision- University of Manitoba

Winter 2016

Proposed and implemented a method for geospatial tagging of objects in location-based augmented reality. Used GIS and feature detection algorithms (SURF/SIFT) on a camera video-stream to detect real-world objects and rendered graphics using OpenGL. [Java, OpenCV, OpenGL, JSON]

MACHINE LEARNING APPLICATIONS - Bioinformatics - University of Manitoba **Fall 2015**

Constructed and trained a Hidden Markov Model for analyzing the amino-acids sequences of protein. Created HMM profiles and implemented the Viterbi Algorithm. [Java]

DRONE AUTOMATION – AALab - University of Manitoba **Fall 2015**

Automated AR.Drone Parrot using YaDrone Java framework and used OpenCV to recognize colors and patterns [Java, OpenCV]

MICROSOFT WORD PLUGIN – Microsoft Imagine Cup 2014 **Jan 2014**

Developed a plugin for Microsoft Word that provide real time suggestions on typing, thumbnails and information about the weblinks in the document and allows online publishing of the content. [C#]

BLUETOOTH CHAT – Software Training – Punjab Technical University **Fall 2014**

Developed a complete Bluetooth chat application that establishes the RFCOMM channels to transfer and supports a wide range of multimedia files. [Android]

For more projects and complete details, please visit: <http://gaganpreet.ca/>

ACHIEVEMENT AND AWARDS

- Presented a prototype-ready startup (Friendzweb) at a national level entrepreneurship fest- Disrupt it!, Eximius ([wiki](#)), IIM Bangalore, sponsored by Nasscom 10,000 start-ups and Microsoft Accelerator. Eximius is the oldest and the largest Entrepreneurship Summit hosted by a B-school in India and has also been rated as one among the top 5 business plan competitions in India. Friendzweb was one of the top-50 startups of India to qualify for pitch sessions to compete for a direct seed-funding.
(Organization or Sponsors: Nasscom 10,000, Microsoft, Google, Kyron, TA Labs)
- International Graduate Student Entrance Scholarship worth \$ 4000 from University of Manitoba to recognize and reward the excellence of my academic record.
(Organization or Sponsor: Faculty of Graduate Studies, University of Manitoba)

OTHER EXPERIENCE

FRONT-END CASHIER– Walmart, Winnipeg, Canada **Sep 2015 – Oct 2016**

Managed cash and responded to the questions and concerns of the customers.

STUDENT AMBASSADOR– Mozilla, Ludhiana, India **Apr 2012 – Apr 2014**

Worked as a Firefox student ambassador to promote the Mozilla products and the mission of openness, innovation, and opportunity on the Web.

PROGRAM CO-ORDINATOR– Salaam Zindagi Foundation, Ludhiana, India **Sep 2012 – May 2015**

Organized and participated in a Blood Donation camp at GNDEC for 3 years in a row.

VOLUNTEER– Rotary Club, Ludhiana, India **Jan 2014 – May 2014**

Educated the residents about the ill-effects of polio and reached out to people of all socio-economic groups for pulse polio treatment.

PUBLICATIONS

“D-SWIME: A Design-Space for Smartwatch Interaction Techniques Supporting Mobility and Encumbrance” (To appear ACM CHI 2018)