Shree Tanna

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Summary

I love solving complex problems and exploring new technologies. I am passionate about graph theory and algorithms as well as influenced by programming in all major languages like Java, Ruby, Python in web, mobile or enterprise platforms. My passion for Graph Theory led me to pursue the master's degree in Computer Science from Concordia University (Montreal, Canada) with a thesis in the area of Graph Theory. I gained experience and expertise in development skills by working in various academic projects, trainings and projects of self-interest. I want to apply my deep knowledge in technology to positively affect the lives of millions daily. I look forward to being a part of a team that is driven and fast-paced.

Education

2012–2014 **Masters of Computer Science**, *Concordia University*, Montreal, Canada.

2008–2012 **Bachelor in Computer Science and Engineering**, *GTU*, Gujarat, India.

Experience

2013–2014 **Ruby on Rails engineer**, *United Cheerleading*, Columbus, GA, USA.

'UnitedClassSolutions' is a B2B product, primarily developed for United Cheerleading. It aims to modernize the managerial tasks in organizations in Educational & Fitness area across the United States.

Technologies: Ruby on Rails, AngularJS, HTML5, CSS3, PostgreSQL

Responsibilities: — Design architecture of the back-end api.

— Implement tested back-end api to serve AngularJS powered front-end.

2012–2014 **Graduate Research Assistant**, *Concordia University*, Montreal, Canada.

Did the research in the area of Graph Theory and Broadcasting with Dr. Havhannes Harutyunyan and fellow students.

2011–2012 **Java Software Engineer (Intern)**, *BISAG - www.bisag.gujarat.gov.in*, Government of Gujarat, India.

Project: Open Source GIS Application for Water Resource Management in Gujarat.

Technologies: Core Java , GeoTools API (Java based open-source library), Swing, Multi-threading

Functionality: — OpenSource GIS Application with most features like ArcGIS.

— Apply Graph Algorithms to manipulate Maps in the application.

— Make the software easy to be used by thousands of GIS researchers.

— With the guidance of the Project Engineer, published the research paper in an international conference.

Master's Thesis (2013 – 2014)

Title: Broadcasting in Harary Graphs

Supervisor: Dr. Hovhannes A. Hartyunyan

Description: - Studied the problem of broadcasting (an *NP-Complete* problem) in Harary graphs.
- Found the diameter to be $\lceil \frac{n}{2(k-1)} \rceil + 1$.
- Designed an algorithm to finish broadcasting in $\lceil \frac{n}{2k-2} \rceil + 1 + \lceil \log \frac{k+1}{2} \rceil$.
- Developed a new and improved version of the Harary graph, with better values of the diameter and the broadcast time.

Academic Projects

2013 **Study edge coloring of graph as an Np-problem and implement the Algorithm**, *Concordia University*, Montreal, Canada.
Tecnologies: Java, Swing, GraphLab, git
Our project started with studying Vizing's theorem and its proof. Vizing's theorem gave rise to NP-Complete Classification problem. We gave NP-Completeness reduction from 3-SAT to Chromatic number(Classification problem). Finally it is followed by applications of edge coloring and implementation of its Approximation Algorithm in Java.

2012 **Implementation of communication protocols (TCP and UDP)**, *Concordia University*, Montreal, Canada.
Tecnologies: Object oriented programming in C/C++
− Implemented TCP/IP protocol and handled all exceptions using C++.
− Developed Stop and wait Protocol over UDP to examine the use of timers, with intermediate router to mangle the packets.
− Extended the capabilities of the protocol by using continuous RQ transmission (Sliding window transmission) with GO-Back-N error recovery.

2012 **Distributed Player Status System**, *Concordia University*, Montreal, Canada.
Technologies: Java, RMI, CORBA, Web Services, SOAP, Web Sockets
− Implemented the java application using RMI, CORBA and Web Service technologies.
− Communicated different servers using UDP socket programming.
− Tested system ability to use by multiple clients concurrently.
− Implemented a highly available server system to tolerate process crashes using Active Replication, appropriate leader election algorithm, and reliable FIFO broadcast mechanism.

2011 **Web Application for Bank Management**, *GTU*, Gujarat, India.
Technologies: PHP, JavaScript, HTML5, CSS3, JQuery, MySQL, Apache, Linux
− Designed the software architecture of a web based application for bank accounts and transaction management.
− Implementation of the back-end was done in PHP, using MySQL database.
− The front-end was implemented using HTML5, CSS3 and JavaScript.

2011 **Chat Application**, *GTU*, Gujarat, India.
Technologies: Java, Swing, Servlet, Socket Programming
− Designed distributed architecture of peer to peer chat application.
− Implemented the application in Java with help of some advanced networking features of Java.

Technical Proficiency

Web:	Ruby on Rails, Build RESTful API, Python, JavaScript, AJAX , HTML5, CSS3, Sass, ASP.NET, JSP, Servlet, Libraries like jQuery, Twitter Bootstrap, AngularJs (Beginner)
Skills:	System design, Database management, Cloud services like Heroku, Rackspace, AWS
Enterprise:	Java, C#.NET , Visual C++, C / C++
Database:	MySQL, Oracle, PgSQL, SQLITE.
Version Control:	Git, Git flow
Beginner:	Android & iOS mobile application development.
Others:	Integration with third party SDKs and libraries, scientific writing, LaTeX

Achievements & Participation

○ P. Bhabak, H. A. Harutyunyan and S. Tanna. Broadcasting in harary-like graphs. In *13th International Symposium on Pervasive Systems, Algorithms, and Networks(I-SPAN 2014)*, Chengdu, 2014.

○ R. Majithiya, S. Tanna, V. Vasara and N. Srivastava. Development of Spatial data application using GeoTools library (a Java GIS toolkit) for visualization of water resource data. ICIKR-ETS-2012 (ISBN : 978-81-906220-3-5)

○ Presented Paper on "Walking Motion Analysis" at International Conference on Innovative Science and Technology.

References

○ **Dr. Harutyunyan, Hovhannes**
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