

RAJAT VIKRAM SINGH

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OBJECTIVE

To pursue graduate studies in Computer Science at a university that provides me opportunity to grow my potential and to excel in the area of my interest.

EDUCATIONAL QUALIFICATIONS

2012	Indraprastha Institute of Information Technology (IIIT), Delhi, India Bachelor of Technology in Computer Science and Engineering (Hons.)	8.08/10
2008	Delhi Public School, R.K. Puram, Delhi, India CBSE All India Senior School Certificate Examination – XII	87.4%
2006	St. Mary's Convent Sr. Secondary School, Dhampur, U.P., India CBSE All India Senior School Examination – X	93%

PROFESSIONAL EXPERIENCE**IIIT HYDERABAD, INDIA****SEPTEMBER 2014 – PRESENT****RESEARCH ASSISTANT**

Advisors: Dr. C.V. Jawahar and Dr. Anoop Namboodiri

- Working on projects under Indian Digital Heritage program, which aims to use computer vision, graphics, audio and video technologies to create vivid experiences of Indian heritage for the common users.
- Developing mobile apps which give a virtual reality experience of the historic monuments by visually showcasing the original glory of a monument at Hampi, India in its prime.
- Dynamically augmenting the real-world scene with virtual pre-restored 2D paintings/3D structures.

WAZZAT TECHNOLOGY LABS, HYDERABAD, INDIA**JANUARY 2014 – PRESENT****RESEARCH ENGINEER**

- Handling research and development operations by strategic planning & implementing efficient solution by iterative experimentation.
- Working on creating resource efficient tools for image search and retrieval that can be integrated with third party mobile apps and websites.
- Automatic search recommendations depending on visual characteristics of apparels chosen by customers on a shopping website. Customize search with unique appearance based parameters.
- Improve the existing pipeline and attack research problems in new areas of growth for the company.

INFORMATICA CORPORATION, HYDERABAD, INDIA**JUNE 2012 – OCTOBER 2013****SOFTWARE ENGINEER**

- Developed new technologies in the area of automatic deployment and continuous integration to maintain high quality of the product.
- Implemented data movement in databases, with optimized and multi-threaded code for maximum performance.
- Developed code for data movement in the database through SQL queries and a platform independent interface.
- Followed agile methodology and multiple iteration approach to track development and achieve highest quality of code.

HIGHLIGHTS

- Won the Informatica ILM Innovation Day prize for the most innovative project conceived and implemented in one day.
- Won the Bronze Spot Award for outstanding contribution to the product.
- Represented IIIT Hyderabad at the Digital Hampi Workshop and Exhibition organised on 18-19th Nov 2014 in Delhi to showcase the work done under the Indian Digital Heritage project.
- Wazzat's product is currently under trials at various e-commerce stores including Target.com. Trials are being run on top of Target's existing stack and algorithms being polished.

PUBLICATION

Hima Patel, Rajat Vikram Singh, Vidit Aatrey, Ramasubramanian Sundararajan, and Vivek Vaidya: Automated Vertebra Numbering and Plane Prescription along the Spine Using a Multi Model Atlas; 20th Annual Meeting of ISMRM, Melbourne, Australia, 2012. (Abstract 3392, e-poster presentation)

GRADUATION PROJECT

Title: *Relevance feedback using Head Movements*

Advisor: Dr. Srikanta Bedathur

- Used a standard webcam to capture user reaction to the search results.
 - Used optical flow to track facial features and head movement, which is then classified as a positive or a negative feedback.
 - This feedback is used to reformulate the query to generate more relevant results for the user. This system was able to generate more relevant search results in case of an ambiguous query.
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SUMMER INTERNSHIP PROJECTS

MEDICAL IMAGE ANALYSIS LAB, GE GLOBAL RESEARCH, BANGALORE

MAY 2011 – JULY 2011

Advisors: Vivek Vaidya and Hima Patel

- This project describes a technology for automatic annotation, numbering, and oblique axial plane prescription along the vertebral column.
 - Developed an algorithm for automatically numbering of vertebrae using a multi-model atlas for template matching.
 - A robust solution was developed for cervical, thoracic, and lumbar regions.
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IMAGE ANALYSIS AND BIOMETRICS LAB, IIIT DELHI

MAY 2010 – JULY 2010

Advisors: Dr. Mayank Vatsa and Dr. Richa Singh

- Innovative algorithm development to detect video tampering through image watermarking techniques including implementation of pre-existing algorithms and data collection.
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SIGNIFICANT UNDERGRADUATE PROJECTS

- **Face Mosaicing** – Researched and implemented a face mosaicing algorithm to generate a composite face image using 3 or more multiple pose images of the same face.
 - **Expression Recognition** – Implemented expression detection from sequence of images using Support Vector Machines and Active Shape Models as part of Machine Learning course.
 - **Information Seeking Support System for Low Literacy Users** – Developed a query optimizing module to work on top of existing search engines to help low-literacy users.
 - **TwitterTraffic** – Real time traffic updates on twitter using microcontroller based sensors attached to automobiles.
 - **PhishBook** – User profiling based on context aware social phishing attacks using Facebook's social network. Presented in IIITD Research Showcase 2011.
 - **Gaussian Mixture Models** – Modelling the fingerprint scores based on probabilistic distributions under the UID as Winter Intern in the Biometrics Lab in IIIT-Delhi.
 - **Assessment Management System for Medical Council of India** – Design and develop an assessment management system to generate random inspection schedule and maintain information about assessments done by MCI.
 - **Virtual Tourist Portal Creation** – A web portal for serving queries of users to rank hotels on the basis of different services based on the comments on virtualtourist.com.
 - **Workflow Management System for Recruitment Agency** – Developed an industrial strength software system for managing the workflow of a recruitment agency for Lecan Solutions Pvt. Ltd.
 - **Piracy in India** – A quantitative and qualitative study to understand the causes and solution to one of the biggest problems which the music and movie industry faces worldwide piracy.
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EXTRA-CURRICULAR ACTIVITIES

- Worked as a volunteer for CRY (Child Rights and You) (May 2010 – June 2010)
 - Student Representative to the Student Council (August 2010 – August 2011)
 - Part of Informatica Employee Club responsible for organizing events for company employees.
 - Member of the Discipline Committee and the Captain of a school house.
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HYDERABAD, DECEMBER 2014