

# Yash Vadalia

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## EDUCATION

- 2014 **B.Tech (Hons) in Computer Science and Engineering**,  
*International Institute of Information Technology, Hyderabad*,  
Ranked 5<sup>th</sup> with GPA of 9.13/10.  
Honors under Dr. Anoop Namboodiri at the Center for Visual Information Technology (CVIT)

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## WORK EXPERIENCE

- 2013 **Software Engineering Intern, Google Inc, Bangalore.**  
Worked with the Geo Imagery team and built a tool to track satellite imagery in Google's processing pipeline.
- Teaching Assistant, International Institute of Information Technology, Hyderabad.**  
Responsible for conducting tutorials, providing project guidance, and designing and evaluating assignments.
- Optimization Methods (Spring 2014)
  - Algorithms (Monsoon 2013)
  - Graphics (Spring 2013)
  - Introduction to Databases (Monsoon 2012)
- 2012 **Web Developer Intern, Gradscloud, Hyderabad.**  
Built an educational networking website using the Drupal CMS with major focus on courses portal and its services.

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## ACHIEVEMENTS

- Secured 17th rank in the **ACM-ICPC Asia Regional** contest held at Kanpur (2012).
- Secured 21st rank in the **ACM-ICPC Asia Regional** contest held at Amritapuri (2011).
- Awarded the **KVPY (Kishore Vaigyanik Protsahan Yojana)** scholarship (2009-2010) by the **Department of Science and Technology, Government of India**.
- Active competitive programmer at **Codechef, Topcoder, Codeforces**, Intra-College contests (Handle: *yashdv*).
- Enlisted in college **Dean's list** for meritorious students **for all the semesters**.

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## INTERESTS

- Computer Vision, Machine Learning, Artificial Intelligence
- Algorithms, Software Development

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## PROJECTS

- **Search Engine for Wikipedia**,  
Indexed 44GB of wikipedia corpus using compression techniques based on bit length encoding (17 % compression). Created a search engine to retrieve pages relevant to the input query.  
(C++)
- **Hierarchical Topic Detection and Representation**,  
A system that groups together stories with similar topics (Topic Detection). We form a hierarchy of topics over those groupings to highlight the topics contained in the corpus. Used publicly available news corpus.  
(C++, Python, JavaScript)
- **Navigational Assistance for the visually challenged, Hons. project**,  
An egocentric vision application that tracks a person's movements through visual odometry. It detects moving objects in the users view and looks out for potential obstacles in their path.  
(C++, OpenCV, Android, Java)

- **3D Mesh Segmentation,**  
*India Digital Heritage Project* is a joint effort by Govt. of India, academia and Microsoft research (India) to preserve the cultural monuments of India. I built a module in C++ that segments 3D mesh models of monuments into its major components.
- **Image Search and Retrieval,**  
Retrieved images similar to a queried image. Implemented the Bag of Words model. Also trained SVM and ANN classifier on Global features such as GIST and PHoG to classify images. Bench-marked results on the CALTECH-101 dataset.  
(OpenCV, C++)
- **Chess Movement Tracker,** *Team size: 3,*  
A system that uses purely image processing concepts to detect/record moves made in a game of chess, as it is being played.  
(OpenCV, C++)
- **Panoramic Image Stching,**  
Stiching required estimating homographies between images using feature matching and a robust estimator like RANSAC (RANdom SAMpling and Consensus). Analysed the matching capabilities of various detector-descriptor combinations like SIFT, SURF, ORB, MSER etc.  
(OpenCV, C++)
- **Simulation Tool for Field Programmable Analog Array,** *Team size: 5,*  
A Tool to convert mathematical functions into an equivalent implementation of interconnected Operational Amplifiers.  
(Java, Java Swing)

## MINOR PROJECTS

- *Speech Recognition System:* A system to match and verify an unknown speaker with voice samples stored previously in a database. Technology: Matlab.
- *Linear Classifier for Pattern Recognition:* A classifier written in C++ that learns a model and classifies objects from a data set. It can use a variety of algorithms and combination strategies.
- *3D World and Car Game:* Created a 3D world using OpenGL (C++). Implemented various aspects of 3D modelling along with textures, lighting, shading and collisions.
- *Custom OpenGL pipeline:* Implemented a graphics library in C++ that did coordinate reference conversions, normalization and viewport transformations.
- *Proxy Web Server and Client:* A TCP based proxy web server with a cache replacement policy that serves out HTTP requests.
- *Custom Linux Shell/Terminal:* Written in C, it can execute all linux commands including pipes, redirection etc.

## TECHNICAL SKILLS

Operating Systems:	GNU/Linux, Windows
Programming Languages:	C, C++, Python, Java, MATLAB, Bash
Web Technologies:	Google App Engine, Drupal, Web2py, PHP, HTML, CSS, JavaScript
Database Systems:	MySQL
Libraries, API:	OpenGL, OpenCV, PThreads
Programming Environments:	Vim, Eclipse

## MISCELLANEOUS

- As a sports enthusiast I love playing Table Tennis, Football, Hockey, and Swimming.
- I enjoy playing chess (went up to State Level).
- I love solving puzzles of any kind.

*End of Curriculum Vitae  
(Last updated on Apr 22, 2014)*