

Education

B. Tech (Hons.) Information Technology	2011	IIT Allahabad, India	9.25/10
Senior Secondary (10+2)	2007	CBSE	91.20%
Secondary (10)	2005	CBSE	89.00%

Technical Skills

- **Programming Languages** : C, C++, Java, PL/SQL, Perl, Matlab
- **Scripting Languages** : PHP, HTML, AJAX, JavaScript, XML
- **Operating Systems** : Windows, Linux, OpenSolaris
- **Libraries Explored** : JQuery, Hessian Web service, Spring MVC, Hibernate, Ext JS, Jackson JSON, OpenGL, Android SDK, Twitter4j, Win 32, LearnLib, JESS, Symbian SDK
- **Professional Software used** : Eclipse, Netbeans, Microsoft Office, Microsoft Visual Studio, OpenOffice, Carbide C++, Adobe Dreamweaver, Oracle 10g, StarUML

Work Experience

- Student Developer** **May, 2011 to Aug, 2011**
Google Summer of Code
➤ Worked on development of Image Editor Component for the fluid infusion framework.
- Software Engineer Intern** **Feb, 2011 to July, 2011**
Elca Informatique SA, Lausanne, Switzerland
➤ Worked on development of Easy Box Office that allows selling of numbered seats in offline mode.
- Research Assistant** **May, 2010 to July, 2010**
Technische Universität Dortmund, Germany
➤ Generated random automata as well as designed backend of RERS, a competition framework.
- Software Engineer Intern** **June, 2009 to July, 2009**
Sun Microsystems, Bangalore, India
➤ Worked on porting of applications to Open Solaris.
- Research Assistant (TDIL Group)** **May, 2009 to July, 2009**
International Institute of Information Technology, Hyderabad, India
➤ Developed software to transliterate among Indian Languages.

Fields of Interest

- Web Application Development and Distributed Computing
- Image Processing
- Open Source Software

Conference Publications

- Pulkit Goyal, Sapan Diwakar, and Anupam Agrawal, “Fast and Enhanced Algorithm for Exemplar Based Image Inpainting”, The 4th Pacific-Rim Symposium on Image and Video Technology, PSIVT2010, Singapore (2010). [[pdf](#)]
- Pulkit Goyal, Sapan Diwakar and Anupam Agrawal, “Devanagari Character Recognition towards Natural Human Computer Interaction”, IndiaHCI conference, IIT Bombay, Mumbai, India (2010). [[pdf](#)]
- Pulkit Goyal, Sapan Diwakar and Rohit Gupta, “Transliteration among Indian Languages using WX Notation”, Proc. Of KONVENS 2010, 10. Conference on Natural Language Processing, Saarbrücken, Germany (2010), pp. 147-150. [[pdf](#)]

Internship Projects

- 1. Image Editor ([github](#))** (Google Summer of Code Student)
Project Guide: Michelle D’Souza May, 2011 to Aug, 2011
Worked as a Google Summer of Code student on development of Fluid component for image editing on the web. It will be a part of the Fluid Infusion Library. It is also included as one of the components of Decapod project. It would allow easy integration of image editing features on websites.
Lines of Code ~ 4000 **Used HTML5, JavaScript, JQuery, CSS, Fluid Infusion Framework, Aptana Studio**
- 2. Numbered EBO** (Internship at Elca Informatique SA, Lausanne, Switzerland)
Project Guide: Ian Rickebusch Feb, 2011 to July, 2011
Worked on the development of Easy Box Office, a tool that allows clients to sell tickets in offline mode (when they are not connected to internet) and automatically integrates the orders automatically as soon as the network comes back up. There may be more than one EBOs running on the same intranet and therefore they must communicate to avoid selling the same seats twice.
Lines of Code ~ 5000 **Used Java, Spring MVC, Hibernate, Hessian Web service, Ext JS, Eclipse**
- 3. RERS** (Summer Internship at Technical University, Dortmund, Germany, funded by DAAD)
Project Guide: Prof. Dr. Bernhard Steffen May, 2010 to July, 2010
The aim of the project was to get familiar with automata learning frameworks, LearnLib and Libalf. Developed an integration-layer that allowed the use of algorithms from Libalf with Learnlib. I also created the generators for random automatons that possessed special properties of the real world systems. I also worked on the development of backend of RERS which is a competition framework for scientists to compete against other scientists on the basis of their algorithms. As a part of this, I also developed the REST-ful interface for the rest service to be used to communicate with the RERS server.
Lines of Code ~ 1000 **Used Java, Netbeans**
- 4. Porting of IPS based package on OpenSolaris** (Online Summer Internship at Sun Microsystems)
Project Guide: Sun Engineers June 2009 to July, 2009
In this project, I worked on porting of Elvis, an open source text editor, to Open Solaris.
- 5. Yellow Pages Application ([github](#))**
Project Guide: Dr. Rohit Agarwal May 2009 to June, 2009
Built an application for Symbian Series60v5 mobile phones as a part of exploratory work on the same. Also prepared tutorials for future application developers. Using this application, a user could get the information about different businesses in 4 major cities of India. Details [here](#).
Lines of Code ~ 1000 **Used Carbide C++, Symbian Series60v5 SDK, epoc32 emulator**

6. **Transliteration between 7 Indian Languages** ([github](#))

IIIT, Hyderabad

Project Guide: Rohit Gupta

May 2009 to July, 2009

This was a part of Indian Language Machine Translation (ILMT) project being carried out at IIIT Hyderabad in collaboration with Technology Development for Indian Languages (TDIL) Group. I developed the transliteration module wherein the aim was to transliterate the text in one of seven Indian Languages (Hindi, Bengali, Punjabi, Tamil, Telugu, Kannada, and Malayalam) into another Indian language as chosen by the user.

Lines of Code ~ 4000

Used C, Perl

Academic Projects

1. **Natural Language Parser** ([github](#))

Project Guide: Dr. Ratna Sanyal

July 2010 to Dec, 2010

Began the project of development of Natural Language Parser for TDIL group at IIITA. Implemented an easily extendible version Earley parsing algorithm and built rules for parsing English sentences. The parser is intended to be extended for other Indian languages. Details [here](#).

Lines of Code ~ 750

Used Java, Netbeans

2. **Image Inpainting** ([github](#))

Project Guide: Dr. Anupam Agrawal

Jan 2010 to May, 2010

Developed a software for the inpainting of the image. Inpainting refers to the art of recovering selected region from an image in a visually plausible way. This software used the best exemplar approach with a priority term and thus was able to reconstruct structural features as well as textures. Details [here](#).

Lines of Code ~ 1500

Used Java, Netbeans

3. **Devanagari Character Recognition** ([github](#))

Project Guide: Dr. Anupam Agrawal

July 2009 to December, 2009

Developed software that could recognize Devanagari characters from an image of Devanagari text. The software could automatically segment individual characters from the text and return the recognized output in UTF. Used Kohonen Neural Networks for recognition. Details [here](#).

Lines of Code ~ 1000

Used Java, Netbeans

4. **Fall of the Caribbean** ([github](#))

Project Guide: Dr. Pavan Chakraborty

Jan 2009 to May, 2009

Built a 3 dimensional game wherein the user gets the control of a castle in the middle of an ocean and the aim is to destroy the ships roaming around the castle by typing the words on the ships. Details [here](#).

Lines of Code ~ 500

Used C++, OpenGL

Achievements

- Awarded the **DAAD WISE Scholarship** by German Government for internship in Germany (2010)
- Awarded the **first prize** in students' category at **Young IT Professional Awards** (2010).
- Awarded **scholarships in first, second and sixth semesters** for first rank in class.
- Selected for the finals of **Trinity Of Neo** (A coding event at IIT Guwahati's Technical Fest)

Extra-Curricular Activities

- Won the Counter Strike Tournament at IPS, Indore.
- Organized seminars, demos and competitions as Sun Campus Ambassador (December 2008 to March 2009) and OSUM Affiliate Leader (July, 2009 to July, 2011).
- Member of Computer Society of India and Student Member of ACM.

Hobbies

- Coding
- Web Development
- Playing PC games
- Watching football

Personal Details

- Date Of Birth : 1st October, 1989
- Permanent Address : B-19, Shivmoti Nagar, Nemawar Road, Navlakha, Indore (M.P.) – 45200, India
- Email : pulkit110@gmail.com, pulkit.goyal@epfl.ch
- Contact : +41 - 766 243 816

References

- Dr. Anupam Agrawal
 - Associate Professor, Indian Institute Of Information Technology, Allahabad
 - Email: anupam@iiita.ac.in

Dr. Anupam Agrawal is the head of Interactive Technologies and Multimedia Research Lab with which I work closely on my Projects titled “Image Inpainting” and “Devanagari Character Recognition”. He also taught me Human Computer Interaction during my academics.
- Prof. Dr. Bernhard Steffen
 - Chair of Programming Systems, Technical University, Dortmund
 - Email: bernhard.steffen@cs.tu-dortmund.de

Prof. Dr. Bernhard Steffen is the Chair of Programming System at Technical University, Dortmund. He selected me for summer internship at TU – Dortmund and guided me throughout my stay there.
- Dr. Rohit Agarwal
 - CEO, Khitchdee Inc.
 - Email: rohitagarwal33@rediffmail.com

Dr. Rohit Agarwal taught me Object Oriented Programming and Software Engineering during my academics and supervised me for building Yellow Page Application as well as UI Interface.