

# ABHISHEK GATTANI

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Immigration Status: Citizenship – India, Work Permit – Yes (H1B)

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- OBJECTIVE** A challenging software development/analyst position which can benefit from my background in image processing/analysis, document imaging, pattern recognition, mobile computing, device driver development, web programming, software engineering, consulting, or client handling.
- EDUCATION**
- Rensselaer Polytechnic Institute (RPI), Troy, NY.** Graduating by Dec 04  
M.S., Computer and Systems Engineering (GPA: **4.0**)  
Advisor: Prof. George Nagy. Thesis on Mobile Visual InterActive Recognition (Mobile CAVIAR)
- Technological Institute of Textile & Sciences (T.I.T.S.), Bhiwani, India.** 1997-2001  
B.Tech., Computer Engineering **1<sup>st</sup> Rank, 78.5%**
- WORK EXPERIENCE**
- Research Assistant, ECSE Dept., RPI, Troy, NY.** Summer 04
- Researched, developed, and evaluated Mobile CAVIAR, a mobile interactive visual pattern recognition system on a PDA with plug-in camera for flower and skin-lesion recognition.
- Teaching Assistant, ECSE Dept., RPI, Troy, NY.** Fall 03, Spring 03, Fall 04
- Lectured, supervised labs, graded exams, and held office-hours for various undergrad courses.
- Software Engineer & Technical Lead, Newgen Software, N. Delhi, India** April 01 – Aug 03
- R&D member of the Image Processing Group as Team leader, Technical Lead, Consultant, System Analyst, and Mentor.
  - Researched, developed, tested, and managed, image processing/analysis API, forms processing system, PDF writer, image-printer driver, OCR engine prototype, Barcode engine, OMR engine, and a multi-layer image format (MicroPDF), – under ISO 9001 and CMM level-4 process control.
  - Conducted job interviews and trained new software engineers.
- COMPUTING SKILLS**
- Languages:* C, C++, C#, VC++, Visual Basic, Matlab, and Java.  
*Platforms:* Windows, Pocket PC, and Linux.  
*Tools:* Visual Studio, .Net Framework, MFC, Win32, Win DDK, gcc, SourceSafe, QT, Visio, Photoshop.  
*Web Development:* HTML, ASP, Socket programming, JavaScript, Dreamweaver.
- PUBLICATIONS**
- Jie Zou and Abhishek Gattani, "Computer Assisted Visual InterActive Pattern Recognition and Prospects of its Implementation over the Internet", *SPIE Internet Imaging VI (accepted)*.
  - Abhishek Gattani, M. Mukerji, and Hareish Gur, "A fast multifunctional approach for document image analysis," *7<sup>th</sup> International Conference on Document Analysis & Recognition*, Aug'03, IEEE.
  - Abhishek Gattani and Hareish Gur, "Improving Rendering and OCRability of Color Images for Web Publishing," *Second International IEEE Workshop on Web Document Analysis*, Aug'03.
  - Numerous articles published in the '**IT**' Magazine – publishers of EFY.
  - Paper on COM, DCOM & related technologies presented in *IIT Delhi at an All India Meet*.
- AWARDS**
- First Prize in IBM TechConnect Poster Competition.
  - Cleared Ph.D. qualifying exams with 2<sup>nd</sup> rank in the ECSE Dept. at RPI.
  - Awarded Graduate Teaching Assistantship and full scholarship by RPI during Masters.
  - 'Certificate of Appreciation' Award by Newgen for contributions to Image Processing Group.
  - 1<sup>st</sup> in national-level predefined software contest for automatic text-summarization work (*see projects*).
  - 1<sup>st</sup> in national-level software development contest for Web-O-Rama (*see projects*).
  - 2<sup>nd</sup> in national-level predefined software development contest for QDE (*see projects*).
- LEADERSHIP ACTIVITIES**
- Chair of IEEE Student Chapter at RPI.
  - Participated in 9<sup>th</sup> annual IBM Leadership Conference at RPI and various Arch Center programs.
  - Pioneered and headed an All India Technical Festival –*Mystica'00* during under graduation. Programmed the website, arranged sponsors, accommodations, events, judges, awards, etc. *Mystica* is India's first online technical festival & a trendsetter in college.
  - President of under-graduate computer-society and invited as judge to inter-school computer events.

SOFTWARE  
PROJECTS

RPI, NY, (master thesis)

Researched, developed, and evaluated Mobile CAVIAR, an interactive visual pattern recognition system on a Pocket PC with plug-in camera, for flower recognition. Applications include: education, dermatology, and face recognition.

Used .Net Compact framework, C#, VC++, MFC, and Sockets.

*Duration: 12 months*

Newgen Software, India

Researched, developed, and lead a team of two, for algorithms to repair degraded characters images and to improve rendering of color document images for the Web.

Used C, Win32 API, VC++ IDE, and Matlab.

*Duration: 3 months*

Responsible for modules of image binarization and text-graphics separation -for a multi-layer color image format and compression scheme (like DjVu, LuraDoc). Built a GUI application (like WinZip) for converting and compressing color-images to this format.

Used C, Win32 API, Visual Basic and VC++ IDE.

*Duration: 6 months*

Designed, developed, documented, tested, and managed document imaging API for 'Color Image Processing', 'Image Analysis', 'OMR', 'MICR', 'Barcode', 'Image enhancement', & 'Image-text separation'.

Used C, Win32 API, Visual Basic, and VC++ IDE.

*Duration: 6 months*

Designed, developed, documented, and tested a forms processing system including: template and data zone definition; document classification and grouping; geometric-feature extraction for template-image registration; form drop-out; data-zone location; and integration with OCR, ICR, OMR, MICR, Barcode engine for subsequent data-extraction. Pioneered a fast line detection algorithm and line-based models for: flexi form processing; barcodes; document-classification and search; and flexible-table recognition.

Used C, Win32 API, Visual Basic and VC++ IDE.

*Duration: 12 months*

Technical lead for device driver team. Developed a PDF writer and virtual image printer driver for printing to PDF/image files from Window applications.

Used C++, Win DDK, and VC++ IDE.

*Duration: 6 months*

Consultant and analyst for system study of UPSC (India's biggest examination body), proposed workflow and document management solutions. Heavily involved in client-handling, interviews, reports, presentations, and so on.

Used DFDs, Pert/Gantt charts, MS Project, MS Visio, etc.

*Duration: 6 months*

Under graduation - course projects excluded

Prototyped a fingerprint recognition system using Wiener filters, Gabor filters, and mean distance classifier.

Used VC++, MS Vision SDK

*Duration: 6 months*

Web-O-Rama: Built a website promotion toolkit with three tools for: (1) repairing links; (2) FTP; and (3) URL submissions for search engine indexing. One of the first Java implementation of FTP RFC.

Used Java 1.1.x, AWT, Socket programming

*Duration: 3 months*

Developed a NLP (natural language processing) algorithm to automatically summarize input text.

Used VC++

*Duration: 2 months*

Developed QDE - a Linux programmer's IDE with; parenthesis matching; auto-indent; customizable syntax highlighting; and compiler integration for multiple languages.

Used C++, QT library, Gcc

*Duration: 3 months*

INTERESTS

Idea generation, drama, acting, tennis, sketching, dance, playing flute, writing, poetry, and reading.