

# DEEPAK PAL

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## CAREER VISION

To work in a challenging environment demanding all my skills and efforts to explore and adapt myself in different fields and realize my potential where I get the opportunity for continuous learning

## RELEVANT EXPERIENCE

### Department of Electrical Engineering, Indian Institute of Technology, Kanpur, India

Dec, 2010 – Present

#### Project Associate

Prof. Aditya K. Jagannatham, Multimedia Wireless Networks Lab, IIT Kanpur

- Developed robust MPEG encoder in MATLAB and C that performs streaming of live videos over wireless network
- Set up a wireless link, supporting radio data rate up to 250 kbps for transmission of images and small sized video using TELOS B motes on TINY OS platform using JAVA
- Developed H.261 video encoder and decoder on MATLAB Platform
- Performed study of JSVM (Joint Scalable Video Model) for h.264 compliant bitstream generation and transmission
- Currently developing H.264/SVC codec to achieve video streaming of live events on IIT Kanpur campus wireless infrastructure

### Department of Electrical Engineering, Indian Institute of Technology, Kanpur, India

Aug, 2010 – Nov 2010

#### Project Fellow

Prof. Aditya K. Jagannatham, Multimedia Wireless Networks Lab, IIT Kanpur

- Developed GUI for transmission and reception of digital images over AWGN and RAYLEIGH channel with noise filtering mechanism at the receiver on MATLAB Platform
- Performed extensive work in video motion estimation, morphological image processing, aliasing, transform coding, 2D sampling, filtering and interpolation
- Developed JPEG encoder and decoder on MATLAB platform

## TECHNICAL SKILLS

### Languages

- MATLAB (EXPERT, 3 Years) | C (ADVANCED, 2.5 Years)
- HTML, CSS, JAVASCRIPT (MEDIUM, 6 months) | Verilog (FAMILIAR, 3 Months)

### Tools and Libraries

- Visual Studio | Eclipse | Dreamweaver | Xilinx IDE | Cygwin
- GNU Scientific Library | Open CV | JRTP

### Operating Systems

- Windows - 7, Vista, XP | Linux - Ubuntu

## EDUCATIONAL QUALIFICATIONS

### Bachelor of Technology in Electronics and Communication Engineering (UPTU, Percentage - 70.02 %)

Galgotias College of Engineering and Technology

Aug 2006 – Jun 2010

### Intermediate (UP Board, Percentage - 79.4 %)

Lucknow Public Inter College

May 2004

### High School (UP Board, Percentage - 65.8 %)

St. Peters High School

Jun 2002

## PROJECTS

### MULTIMEDIA TRANSMISSION OVER WIRELESS

Nov 2010 – Present

#### Details

- Objective - Implement a video coding standard to enable transmission and unpacking at multiple spatio-temporal resolutions with variegated bitrates so as to make video streaming readily suited for wireless networks
- Sponsor company – BSNL India

#### Role

- Developed MPEG encoder with scalability feature. Generated bitstream can be decoded up to 3 spatial resolutions depending on the receiver requirement and bandwidth availability
- Added RTP functionality to encoder using JRTP library so as to complete a working model of the SVC codec for video streaming of live events on the IITK campus wireless infrastructure
- Platform – Linux/Windows | Tools – Eclipse/Visual studio | Language – C (Started with MATLAB)
- Libraries – Open CV, JRTP

## ACADEMIC PROJECTS

- Moving Object Tracking Using MATLAB (Guide: A.Prof Navneet Sharma, Dept. of ECE, GCET)** Mar 2010 - May 2010
- Designed and constructed moving object tracking system on MATLAB with ATMEGA 16 microcontroller controlled movable webcam
- Speed Control of Permanent Magnet DC Motor** Feb 2010 – Mar 2010
- Constructed and designed microcontroller based speed control system for permanent magnet DC Motor
- Micromouse** Nov 2009 – Jan 2009
- Constructed an autonomous robot capable of solving mazes with the help of IR sensors using ATMEGA 16 microcontroller
- Line Follower** Feb 2008- Mar 2008
- Constructed an automatic robot capable of traversing black line on white background using microcontroller ATMEGA 16
- Biogas Engine for Rural Transformation (Mentor: Prof G.P Govil, H.O.D, Mechanical Engg, GCET)** Sep 2007- Nov 2007
- Worked on a business model which can be implemented in rural sector for employment generation and solve as well as energy problem using biogas

## TRAININGS

- Bharat Sanchar Nigam Limited, Mahanagar Telephone Exchange, Lucknow** Jun 2009 - Jul 2009
- Undergone summer training on working of telephone exchange
- Training on MATLAB SOFTWARE from QMS Softech Pvt. Ltd., Lucknow** Jun 2008 - Aug 2008
- Undergone summer training on basic knowledge of MATLAB Software
- Micro Small & Medium Enterprises Development Institute (Govt. of INDIA), New Delhi** Feb 2010- Mar 2010
- Undergone training on BUSINESS SKILLS DEVELOPMENT PROGRAMME on basic qualities of an entrepreneur & how to set up an enterprise

## PAPER PRESENTATION

- Published a national level technical paper on '**Electromagnetic Suspension**' in **The 3<sup>rd</sup> CSI National Conference on Education & Research** sponsored by IEEE & CSI at Jaypee Institute of Eng. & Tech. Guna Mar – 2010
- Published a national level technical paper on '**Moving Object Tracking Using MATLAB**' at LNCT, Bhopal Mar - 2010

## POSITIONS OF RESPONSIBILITY

- General Secretary, GNIX (Student Based Electronic Society of College)** Aug 2008- May 2009
- Organized events: BULLZ AND BEARZ (Virtual stock market event), SKEP TORING (To build structure using provided material), YAMAHA DAY, QUIZ, Technical Paper presentation
  - Organized Industrial Trip to NTPC Dadri
  - Conducted hand's on workshop on Robotics
  - Inspired students for experimental learning attitude towards engineering
- Coordinator (Metal Storm - Inter College Robotic Event) for Gladiator '08, annual Technical Festival** Apr 2008
- Managed overall task for successful conduction of the event

## ACHIEVEMENTS & PARTICIPATION

- Won 1<sup>st</sup> prize in 'SAVIOR SENSE', a manual robotic event at TECHKRITI '08, Technical festival of IIT Kanpur
- Initiated a technical environment in the college** by introducing technical competitions like '**GLADIATOR**', a Manual Robotics competition and various technical competitions for the first time. **Ensured high participation** of students respectively
- Won 1<sup>st</sup> prize in an Advertising event at GCET organized by NATIONAL ENTREPRENEUR NETWORK(NEN) Feb 2009
- Won 1<sup>st</sup> prize in 'DEXTERITY- Assembling & Disassembling of Machines' at GCET Mar 2007
- Secured RUNNER UP position in 'CAPTIVITY' event at GCET May 2009
- Participated in TECHKRITI '08, Technical festival of IIT Kanpur Feb 2008
- Participated in robotic event at SHAASTRA '07, Technical festival of IIT Madras Sep 2007
- Participated in Techfest NEXUS 2007 at MNIT Jaipur Sep 2007

## HOBBIES

Reading Books | Internet Surfing | Solving Sudoku | Listening to music

Kanpur, UP  
Date:

(Deepak Pal)