

**Kunal Narayan Chaudhury**  
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## Interests

- Computer Vision
- Image Processing
- Stochastic Modeling and Applications
- Pattern Recognition
- Machine Learning
- Digital Signal Compression
- Applied Mathematics

## Professional Status

- Currently employed as a Doctoral Student with the Biomedical Imaging Group(BIG) at EPFL(Switzerland)under the supervision of Prof. Michael Unser. The research involves the development of new wavelet-based algorithms for the processing of biomedical images. Application areas include magnetic resonance imaging, microscopy, and ultrasound.

## Education

### **Indian Institute of Science**

Masters in System Science and Automation

Bangalore,India

2003-2005

- Final Year Project : Foreground-Background Segmentation and Object Tracking

C.G.P.A : 7.1/8.0

Project Grade: S

Rank : 1/11

### **Jadavpur University**

Bachelors in Electrical Engineering

Kolkata,India

1999-2003

- Percentage : 82

Rank : 4/100

### **Margaret High School**

West Bengal Higher Secondary Examination

Siliguri,India

1997-1999

- Percentage : 89.50

Rank : 1/50

### **St.Joseph's Convent**

Indian School Certificate Examination

Siliguri,India

1985-1997

- Percentage : 87.50

Rank : 3/60

## **Graduate Courses**

- Non-Linear and Linear Optimization
- Stochastic Modeling and Applications
- Pattern Recognition
- Computer Vision
- Neural Networks
- Multimedia Systems
- Medical Imaging and Applications
- Information Theory
- Dynamics of Linear Systems
- Digital Signal Compression
- Communication Protocols
- Data Structures and Algorithms
- Real Time Systems

## **Research Project@IISc**

- Exploring algorithms that can do better than conventional ones for Foreground-Background Segmentation problems in Computer Vision.
- Using Level Sets for shape-contour extraction and for contour based object tracking
- Optimal bandwidth estimation for kernel density estimation and their application in probabilistic object tracking algorithms

## **Research Project@Siemens Corporate Technology,India**

- Design and optimization of Image Processing and Computer Vision algorithms on Embedded Systems.
- Design of a Pedestrian Detection System for Embedded applications.
- Development of Pattern Recognition Systems.

## **Records and Honors**

- Received the N.R.Khambathi Memorial Medal and Cash Prize for being adjudged the best M.E. student in area of System Science and Automation in the Department of Electrical Engg.,IISc
- Ranked 1<sup>st</sup> in the Masters program of the System Science and Automation Department,IISc

- All India Rank of 19 (99.9<sup>th</sup> percentile) in GATE,2003 in Electrical Engineering for Graduate Admissions in India
- Secured 315<sup>th</sup> Rank in the West Bengal Joint Entrance Examination for Engineering Admission in that State
- Admitted to the Control and Computing Group at IIT,Bombay in Fall 2003
- Ranked 4<sup>th</sup> in the Electrical Engineering Department for the Bachelors Final Examination
- Stood 2<sup>nd</sup> in the Don Bosco Maths Olympiad, organized at the city level

## Skills

**Languages:** C,VC++,JAVA,Unix Shell Scripting

**Operating Systems:** OS X,Unix/Linux,Windows 95/98/NT/2000/XP

**Embedded Systems:** FPGA & DSP systems

**Applications:** Matlab,L<sup>A</sup>T<sub>E</sub>X

**Miscellaneous:** Strong verbal and written communication skills, excellent troubleshooting and debugging skills.

## Hobbies and Interests

**Music:** Amateur violinist with formal training in both Indian and Western Classical Music.

**Sports:** Accomplished chess player and a cricketer and have won few chess tournaments.

## References

- **Prof. K. R. Ramakrishnan**  
Ph.D. Electrical Engineering, Indian Institute of Science  
Research Areas : Image Processing, Multimedia Systems  
Phone: 91 (0)80 2293 2411 Fax: 91 (0)80 2360 0444  
Email: krr@ee.iisc.ernet.in
- **Prof. P. S. Sastry**  
Ph.D. Electrical Engineering, Indian Institute of Science  
Research Areas : Learning Systems, Computational Neuroscience  
Phone: 91 (0)80 2293 2934 Fax: 91 (0)80 2360 0444  
Email: sastry@ee.iisc.ernet.in
- **Prof. Y. V. Venkatesh**  
Ph.D. Electrical Engineering, Indian Institute of Science  
Research Areas: Computer Vision, Image Processing  
Email: eleyvv@nus.edu.sg
- **Prof. M. N. Murthy**  
Ph.D. Computer Science and Automation, Indian Institute of Science  
Research Areas: Pattern Recognition, Genetic Algorithms, Data Mining  
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