

# Ramachandra Murthy K



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🏠 Machine Intelligence Unit  
Indian Statistical Institute  
203 B.T.Road, Kolkata-108

## Research Interests

*Data mining with Big Data, Data Science and Visualization, Social Network Analysis, e-Health, Soft Computing, Biometric Identification Systems, and Automatic Target Recognition.*

## Education

**2011–Present** **Doctor of Philosophy in Computer Science**, Machine Intelligence Unit (MIU), Indian Statistical Institute (ISI), Kolkata, India.

- Concentrate in Data Science.

thesis title *On Eigenspace Transforms for Dimensionality Reduction and, its Applications to Pattern Classification.*

supervisor Prof. Ashish Ghosh, MIU, ISI

**2006–2008** **Master of Technology in Computer Science**, ISI, Kolkata, India.

- Concentrate in Pattern Recognition and Digital Image Processing.

— MASTER THESIS

thesis title *Detection of Rectangular Face Skin Area in Passport Size Images.*

supervisor Prof. Bhabatosh Chanda, Electronics and Communication Sciences Unit, ISI

**2003–2005** **Master of Science in Mathematics**, University of Hyderabad (UOH), Hyderabad, India.

- Concentrate in Pure Mathematics.

**1999–2002** **Bachelor of Science**, Sri Venkateswara University, Tirupati, India.

- Concentrate in Computer Science, Mathematics and Statistics.

## Journal Publications/Communications

- [1] K. R. Murthy, S. Biswas, A. Ghosh, "A Fast and Efficient Clutter Rejection Algorithm for SAR Imagery", IEEE Transactions on Aerospace and Electronic Systems, vol.49, no.4, pp.2431-2439, October 2013.
- [2] K. Ramachandra Murthy, A. Ghosh, "Enhanced Eigenspace Separation Transform for Pattern Classification", IEEE Transactions on Neural Networks (Under Review).
- [3] K. Ramachandra Murthy, A. Ghosh, "Generalized Eigenspace Separation Transform for Pattern Classification", IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics (Under Review).

## Conference Publications

- [1] K. Ramachandra Murthy, Ashish Ghosh, "Enhanced Eigenspace Separation Transform for Classification", In Proceedings of the Eighth Indian Conference on Computer Vision, Graphics and Image Processing, p. 48. ACM, 2012.
- [2] K. Ramachandra Murthy, Ashish Ghosh, "An Efficient Illumination Invariant Face Recognition Technique using Two Dimensional Linear Discriminant Analysis", 1st International Conference on Recent Advances in Information Technology (RAIT), pp.62-67, 15-17 March 2012.

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## International Workshops

- [1] School and Workshop on Classification and Regression Trees, Sponsored by Institute for Mathematical Sciences, National University of Singapore, 10 - 26 March 2014, Singapore.
- [2] Latin American eScience Workshop, Sponsored jointly by Microsoft Research and FAPESP, May 13–15, 2013, São Paulo, Brazil.

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## Experience

### Research

**2009-2011** **Senior Research Fellow**, *Machine Intelligence Unit*, Indian Statistical Institute.

project title Processing and Analysis of Aircraft Images with Machine Learning Techniques for Locating Objects of Interest.

Funding U. S. Army.

**2014-Present** **Visiting Research Fellow**, *Machine Intelligence Unit*, Indian Statistical Institute.

### Teaching

**2005-2006** **Lecturer**, *Department of Mathematics, St. Joseph's Degree College*, Kurnool, A. P., India.

- *Subjects*: Real Analysis - I & II, Lebesgue Measure Theory.

**2002-2003** **Tutor**, *Times Institute*, Chittor, A. P., India.

- *Subjects*: Basic Mathematics, Arithmetic and Reasoning.

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## Professional Memberships

- Association for Computing Machinery (ACM), Student Member, 2012–present.
- Institute of Electrical and Electronics Engineers (IEEE), Student Member, 2011–present.
- Membership Chair, ACM Student Chapter, ISI Kolkata, India.

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## Invited Talks

- Talk on Feature Extraction and Selection in Advanced Faculty Training Program on Digital Signal Processing, Image Processing, Speech Processing, 24th June-5th July 2013, organized by Advanced Signal Processing Group, Centre for Development of Advanced Computing (C-DAC), Kolkata.

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## Academic Expertise

**Mathematics** Calculus, Real Analysis, Linear Algebra, Topology and Convex Optimization.

**Statistics** Probability and Statistical Theory, Applied Statistical Methods, Non-parametric Methods and Statistical Learning.

**Computing** Programming Language Design, Data Mining and Prediction, Pattern Recognition, Artificial Neural Networks, Fuzzy Systems, Analysis of Algorithms, Theory of Computation and Numerical Analysis.

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## Software Skills

<b>OS</b>	Linux/Unix, Windows	<b>programming</b>	C, Python, Java, UNIX shell scripting, Matlab, R
<b>Machine Learning Tools</b>	LIBSVM, Weka	<b>typography</b>	L <sup>A</sup> T <sub>E</sub> X, Microsoft Office

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## Academic Achievements

- Council of Scientific & Industrial Research - Research Associateship, 2014.
- Only person to qualify for Ph.D. registration test at ISI conducted by Computer and Communication Sciences Division (CCSD), 2011.
- Council of Scientific & Industrial Research-SRF Fellowship, 2011.
- Council of Scientific & Industrial Research-University Grant Commission, NET (Lectureship), 2010.
- 15<sup>th</sup> rank, ISI M.Tech (C.S.), 2006.
- Graduate Aptitude Test in Engineering (GATE) - 216<sup>th</sup> rank (Mathematics), 2005.
- Sri Venkateswara University CET - 32<sup>th</sup> rank (Mathematics), 2003.
- Osmania University CET - 78<sup>th</sup> rank (Mathematics), 2003.

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## Extra Curricular Achievements

- Vice-Captain, MIU cricket team (Runner-Up, ISI club cricket championship, 2012).
- Captain, M.Tech cricket team (Winner, RS - M.Tech & ISI club cricket championship, 2008).
- Mixed doubles champion, M.Tech Badminton tournament, 2010, ISI.
- Hostel Chairman, D-Hostel, 2004, UOH.
- Election committee member, 2004, UOH.
- Mess Secretary, D-Hostel mess, 2003, UOH.

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## Hobbies

Sports (cricket, badminton, table tennis), Movies, Puzzles, Trekking.

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## References

**Dr. Ashish Ghosh**, e-mail: [ash@isical.ac.in](mailto:ash@isical.ac.in), phone: +91-33-2575 3110/3100.

- Professor, Head, Machine Intelligence Unit
- In-Charge, Center for Soft Computing Research
- 203, B. T. Road, ISI, Kolkata-108

**Dr. Arni S.R. Srinivasa Rao**, e-mail: [arrao@gru.edu](mailto:arrao@gru.edu), phone: (706) 721 3786.

- Assistant Professor, Georgia Regents University
- 1120, 15th Street, AE 1015, Augusta, GA-30912

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## Personal Information

**DOB** 02 August,1982  
**Nationality** Indian  
**Languages** Telugu (Mother Tongue), Hindi, English, Tamil, Bengali