

## Subarna Sinha

Ph.D Scholar (joining year- 2014),

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### Objective

To work with sincerity and dedication in a challenging technical or academic environment with the goal of continual improvement of the organization, society & myself.

### Areas of interest

- Data Visualization, Computer vision
- Human Computer Interaction, Image Processing

### Education

<b>M. Tech. (Computer Science &amp; Engineering)</b>	<b>National Institute of Technology Agartala</b>	CGPA: <b>8.55 / 10</b>	<b>2012 - 2014</b>
<b>B.E. (Computer Science &amp; Engineering)</b>	<b>Tripura Institute of Technology</b> under Tripura University	Degree Percentage: <b>77.5</b>	<b>2008 - 2012</b>
<b>Higher secondary (12th)</b>	<b>TBSE, Tripura</b> Golden Valley H.S. School, Dharmanagar, Tripura	Percentage: <b>73.6</b>	<b>2008</b>
<b>Madhyamik (10th)</b>	<b>TBSE, Tripura</b> Golden Valley H.S. School, Dharmanagar, Tripura	Percentage: <b>84.125</b>	<b>2006</b>

### Projects Undertaken

#### • Current Projects:

- **Interactive Three-dimensional Visualization of Large-scale ARGO Data**  
Advisor : Dr. Jaya Sreevalsan Nair

#### • M.Tech. Projects:

- **Depth vision based augmented HCI technique for sign language translation**  
Advisor : Asst. Prof. Suman Deb, Dept. of CSE, NIT Agartala  
The project aims to design and implement a system capable of recognizing a list of basic signs using simple descriptors and classifiers. For these signs the only data used are the joint positions obtained from RGB-D sensor like Microsoft Kinect XBOX 360™. The project does not focus on a particular official dictionary of signs because the objective consists of evaluating the efficiency of the approach for sign recognition purpose.
- **Measuring Vitiligo: A Fuzzy C-means clustering based technique**  
Advisor : Asst. Prof. Suman Deb, Dept. of CSE, NIT Agartala  
In this work, Fuzzy C-Means algorithm (FCM) has been applied to represent skin images in terms of Vitiligo affected area (skin area that lacks melanin) and normally pigmented area. The skin patch images of Vitiligo patients are processed to deduce the percentage of Vitiligo affected area and also to find out the percentage of repigmentation/recovery. The proposed method being an objective method solves the problems prevailing in subjective assessment techniques practiced by physicians for such disorders.

#### • B.E. Projects:

- **A simplified Clustering method using Swarm Intelligence**
- **Online Shopping System using C#.net. in 6<sup>th</sup> semester B.E.**

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## Training Courses Undertaken

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- Training course undertaken in C#.net : Globsyn Technologies ltd. Kolkata (Jun, 2011 - Jul, 2011).  
**Project done: Online Library Management**
- Attended workshops on various areas including Image processing organised by ISI Kolkata, Internet Security by CDAC, Hacktrack-IIT Bombay etc.
  - Image processing organised by ISI Kolkata.
  - Internet Security by CDAC Image processing organised by ISI Kolkata.
  - Hacktrack-IIT Bombay.
  - Matlab and its application in digital image processing, NIT Agartala, 2013.
  - Algorithms for mobile and pervasive computing, NE ISI-NIT Agartala Spring school 2014.

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## Computing Skills

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- **Languages known:** C, C++, VB, C#.Net, Java
- **Operating system:** Windows, Linux
- **IDE known:** Microsoft Visual Studio 2008/2010, Turbo C++, Dev C++
- **SDK/Libraries used:** Microsoft Kinect SDK, OpenCV, OpenGL
- **Other skills:** Adobe Photoshop, LaTeX, Dreamweaver, Wordpress, Microsoft Office Visio, Publication, Audacity, Edraw etc.
- **Web Technologies :** HTML

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## Scholistic/Academic Achievements

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- Qualified GATE-2012
- Secured highest marks in Hindi (Madhyamik-2006 in the entire board TBSE.).
- Selected for Central Sector Scheme Scholarship for university students-2009.
- Participation in CCRT (Central Council for Research And Training, Ministry of HRD, Govt. of India,) scholarship programme in Kathak dance form.-2003.
- Bisharad in Kathak, Bharatnatyam and Rabindra Nritya.

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## Publications

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1. **Subarna Sinha**, Suman Deb, "Graph coloring problem solution using modified flocking algorithm", Soft Computing And Problem Solving (SocProS 2013), 26-28 December, Volume 2, Series: Advances in Intelligent Systems and Computing, Vol. 259 ISBN 978-81-322-1768-8, SPRINGER.
2. **Subarna Sinha**, Suman Deb, "Image segmentation by intelligent clustering Technique", Recent Advances In Intelligent Computational Systems (RAICS2013), 19-21 December 2013, IEEE Catalog Number:CFP1337M, ISBN: 978-1-4799-2177-5.
3. Suman Deb, **Subarna Sinha**, "Comparative Improvement of Image Segmentation Performance with Graph Based Method over Watershed Transform Image Segmentation", ICDCIT-2014, Distributed Computing and Internet Technology Lecture Notes in Computer Science Volume 8337, 2014, pp 322-332, SPRINGER.
4. **Subarna Sinha**, Suman Deb, Subhrajyoti Deb, Bhaskar Biawas "Analysis of a new paradigm for depth vision application in augmented HCI ", ICCSP (APRIL 2014), ISBN: 978-1-4799-3357-0, IEEE Xplore, pp 974-978.
5. **Subarna Sinha**, Suman Deb, "Measuring Vitiligo: A Fuzzy C- Means clustering based assessment technique. technique ", ICISP (JULY 2014), ELSEVIER.
6. **Subarna Sinha**, Asmita Bhaumik, Aditi Deb Jhunu Debbarma, "A Clustering Method Using Simplified Swarm Intelligence Algorithm", International Journal of Advanced Research in Computer Science, Volume 3, No. 5, Sept-Oct 2012, ISSN No. 0976-5697.
7. **Subarna Sinha**, Suman Deb, "Depth Sensor Based Skeletal Tracking Evaluation for Fall Detection Systems", International Journal of Computer Trends and Technology (IJCTT), volume 9 number 7– Mar 2014, ISSN: 2231-2803, pp 350-354.

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## Hobbies

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- Dancing, Travelling, Collecting Earrings, Reading