

Sai Srivatsa Ravindranath
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Indian Institute of Technology, Kharagpur

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INTERESTS	Computer Vision, Machine Learning	
EDUCATION	Indian Institute of Technology, Kharagpur <i>B.Tech (Hons)</i> in Electrical Engineering <i>Minor</i> in Computer Science and Engineering <ul style="list-style-type: none">GPA (until the 6th semester): 8.96/10.00	July, 2012 - Present
	SBOA School and Junior College, Chennai Higher Secondary School Examinations, Class XII, CBSE board <ul style="list-style-type: none">Aggregate: 95.6%Computer Science: 99%	July, 2010 - Apr, 2012
	Kendriya Vidyalaya No 2, Kalpakkam Higher Secondary School Examinations, Class XII, CBSE board <ul style="list-style-type: none">GPA: 9.8/10.0	April, 2000 - Apr, 2010
PUBLICATIONS	Sai Srivatsa R. , Michael Gygli, Luc Van Gool. "Learning Objective functions for Improved Image retrieval". MediaEval 2015 Workshops	
	Sai Srivatsa R. , R Venkatesh Babu. "Salient Object Detection via Objectness Measure". IEEE International Conference on Image Processing (ICIP), 2015	
INTERNSHIPS	Learning Submodular Objectives for Improved Image Retrieval Computer Vision Lab, ETH Zurich Advisor : Michael Gygli, Prof. Luc Van Gool	May, 2015 - July, 2015
	<ul style="list-style-type: none">Formulated Image retrieval as subset selection problem and addressed it using submodularity.Implemented various submodular shells that quantify how relevant or representative a given subset is.Learnt weights for the mixture of implemented shells using large-margin formulation that is optimized using stochastic gradient descent.Best results on MediaEval 2013 dataset	
	Visual Interestingness of Images Computer Vision Lab, ETH Zurich Advisor : Michael Gygli, Prof. Luc Van Gool	May, 2015 - July, 2015
	<ul style="list-style-type: none">Analyzed how image content and emotions are linked to interest.Built a predictive model using deep convolutional networks, which predicts interest more accurately than the previous state-of-the-art.	

Salient Object Detection via Objectness Measure

Video Analytics Lab, IISc Bangalore

Advisor : Prof. R Venkatesh Babu

May, 2014 - July, 2014

- Proposed a method to estimate the foreground regions in an image using objectness proposals.
- Proposed and implemented a novel saliency measure which determines how tightly a pixel or a region is connected to the estimated foreground which is then used to obtain smooth and accurate Saliency Maps.
- Extensively evaluated the proposed approach on two benchmark databases. Results obtained were better than the existing state of the art approaches.

Comparative Analysis of Signal Processing Algorithms for Bearing Fault Diagnosis

Real Time Systems Division, IGCAR, Kalpakam

Advisor : Mr. Murali N

Winter 2013

- This project aims at comparing how effective different Signal Processing algorithms are, in detecting these bearing faults despite the signals being noisy.
- Algorithms such as envelope detection, Empirical Mode Decompositions, FFT and techniques using morphological operators etc were implemented and their performances were evaluated.

PROJECTS

Visual Attention Models

Bachelors Thesis Project

- Ongoing

Selective Search for Object Recognition

Digital Image Processing Course Project

- Implemented Selective Search, a state-of-the-art object proposal algorithm in Python.
- Integrated the above with fast-RCNN (Regions with Convolutional Neural Network Features) model to perform Object Recognition.

Regression based Automated Essay Scoring

- A regression based approach for automatically scoring essays written in English.
- Use standard NLP techniques for obtaining the features from the text and integrated it with an improved vector-space model
- The results obtained are comparable to professional human raters while at a much faster rate.

Grammatical Error Correction

- A Grammatical Error Corrector based on Round Trip Machine Translations using python and openFST package

Intelligent Game Agents

- Developed a Minimax and alpha-beta search based intelligent agent for Warfare game.
- Designed GUI using Qt

Image Segmentation

- Using Prims algorithm, a minimum spanning tree was constructed. Costliest edges were removed to obtain disjoint regions/segments

SCHOLARSHIPS

Inspire Fellowship for Higher Education

2012 - 2013

Program by Govt. of India

Kishore Vaigyanik Protsahan Yojna Fellowship (KVPY)

2011 - 2012

Among Top 200, National

	National Talent Search Scholarship (NTSE) Among Top 1000, National	2009 - 2011
SCHOLASTIC ACHIEVEMENTS	99 percentile in IIT-JEE among 0.5 million candidates, National	2012
	99.93 percentile in AIEEE among 1.1 million candidates	2012
	All India Rank 7 in National Cyber Olympiad National	2012
	Certificate of Merit, Indian National Mathematics Olympiad (INMO) Top 75, National	2012
	Certificate of Merit, National Standard Examinations in Chemistry (NSEC) Top 300, National	2012
	Certificate of Merit, National Standard Examinations in Physics (NSEP) Top 1%, Regional	2012
SKILLS	Python, C, C++, Matlab, L ^A T _E X, Qt, Git, SVN, Linux, Windows	
RELEVANT COURSES	Computer Science and Engineering Programming and Data structures (+ Lab) Algorithms (+ Lab) Artificial Intelligence	Language Processing for E-learning Parallel and Distributed Algorithms Computer Architecture and Operating Systems
	Mathematics Mathematics I & II Probability and Statistics	Transform Calculus Partial Differential Equations
	Electrical Engineering ¹ Digital Image Processing Data Communication Signals and Networks (+ Lab)	Embedded Systems (+ Lab) Digital Electronic circuits (+ Lab)

¹For the complete list of courses, check EE B.Tech Curriculum