

# Sai Srivatsa R

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📁 [saisrivatsan.github.io](https://saisrivatsan.github.io)

## Education

**Undergraduate Studies** **Indian Institute of Technology, Kharagpur, 2012 – Present.**

- B.Tech (Hons) in Electrical Engineering, Minor in Computer Science and Engineering
- Cumulative Grade Point Average (**CGPA**) : **9.09**
- Due to my excellent performance in the first year, I was awarded a department change to Electrical Engineering.

**Higher Secondary Education** **SBOA School and Junior College, Chennai, 2010 – 2012.**

- Central Board of Secondary Education
- **Aggregate : 95.6 %**

**Secondary Education** **Kendriya Vidyalaya No 2, Kalpakkam, 2000 – 2010.**

- Central Board of Secondary Education
- **CGPA : 9.8**

## Internships and Research Experience

### Salient Region Detection via Objectness Measure

**Video Analytics Lab, Indian Institute of Science, Bangalore, May 2014 – June 2014.**

- Worked on algorithms to pick out Salient regions in an Image using Objectness proposals and contrast prior.
- Evaluated performance of the proposed approach on two extensively used databases. Results obtained performed better than existing state of the art methods.
- Research paper submitted to IEEE ICIP 2015.

### Comparative Analysis of Signal Processing Algorithms for Bearing Fault Diagnosis

**Real Time Systems Division, Indira Gandhi Centre for Atomic Research, Kalpakkam, Dec 2013.**

- Analysed the cause of bearing faults and its effect on Vibration data collected using accelerometer
- Worked on various signal processing algorithms used for bearing fault diagnosis and implemented them in MATLAB
- Analysed the signal obtained from CWRU data center using FFT, envelope detection , empirical mode decomposition and Morphological operations and compared their performance.

## Selected Development Projects

- **AI Game Agent** : Implementing Intelligent Agents to play games using minimax search and alpha-beta pruning ( ongoing ).
- **Image Segmentation** : Using Prims algorithm, a minimum spanning tree was constructed. Costliest edges were removed to obtain disjoint regions/segments.
- **Ludo** : Implemented the well known Ludo game with GUI using Qt
- **K-Map** : Developed a C++ program to simplify a given Boolean expression using a Karnaugh Map

## Awards and Honours

- **INSPIRE fellowship** for higher education. (Program by govt. of India)
- **99 Percentile** ( Among 500 000 candidates) in **Joint Entrance Examination** 2012 and secured admission to IIT Kharagpur.
- **99.93 Percentile** in All India Engineering Entrance Examination (Among 1.2 million candidates)
- **Kishore Vaigyanik Protsahan Yojna (KVPY) fellowship** (Top 200 Among 60 000 candidates)
- **National Talent Search Scholarship (NTSE)** (Top 1000)

## Other Scholastics Achievements

- 2012 National **Certificate of Merit**, Indian National Mathematics Olympiad. (Awarded to **top 75**)
- 2012 National Qualified for Indian National Chemistry Olympiad. (**Top 1 %**)
- 2012 Regional **Certificate of Merit**, National standard examinations in Physics (**Top 1 %**)
- 2012 National Secured **All India Rank 7** in National Cyber Olympiad
- 2012 National Secured **All India Rank 30** in KVS Junior maths olympiad
- 2010 National Secured **All India Rank 292** in IMO conducted by Science Olympiad foundation
- 2008 National Secured **All India Rank 45** in National Science Olympiad

## Technical Skills

- Programming Languages C, C++
- Technical Computing MATLAB, Octave
- Software Tools  $\LaTeX$ , Qt, Solidworks, Visual Studio
- Platforms Microsoft Windows, Linux

## Relevant Coursework

- Programming and Data Structures<sup>T+L</sup>
- Algorithms<sup>T+L</sup>
- Artificial Intelligence
- Analog Electronics<sup>T+L</sup>
- Digital Electronics<sup>T+L</sup>
- Computer Architecture and Operating Systems\*
- Embedded Systems\*
- Machine Learning\*\*
- Signals and Networks<sup>T+L</sup>
- Electric Machines<sup>T+L</sup>
- Power Electronics<sup>T+L</sup>
- Control Systems Engineering<sup>T+L</sup>
- Mathematics I & II
- Power Systems \*
- Probability and stochastic processes\*
- Introduction to VLSI CAD\*\*

T+L denotes that the course had a laboratory component as well.

\* denotes courses to be completed before the internship.

\*\* denotes courses completed online

## Extra-curricular Activities

- Passed two grades with merit in Western solo Piano and Keyboard (Trinity College of London)
- Part of Inter-hall Maths Olympiad team, Opensoft team and Quizing team.
- Member of National Sports Organisation from 2012–2014