

# Karthik Mahesh Varadarajan

<b>Career Objective</b>	Research and application of Digital Signal Processing to engineering and medical fields	
<b>Immediate Goals</b>	Research-oriented study in Signal Processing and Communication Engineering	
<b>Baccalaureate Degree Program</b>	Electronics and Communication Engineering (ECE) at Sri Venkateswara College of Engineering, (SVCE), affiliated to Anna University (AU)	
<b>Scores &amp; Ranking</b>	Core Departmental Average : <b>90.19%</b>	Overall Average : <b>89.71%</b>
	Ranking: <b>I in Department.</b> (among <b>135 students</b> )	
<b>Fields of interest</b>	Image Processing, Bio-Medical Imaging, Discrete & Multi-dimensional Signal Processing, Satellite & Cellular Communications, Information Theory.	
<b>Software Skills</b>	C, C++, Java, Python	
<b>DSP Skills</b>	Programming TMS320C50-TMS320VC5416, ADSP 2190-ADSP 2192-12 Matlab	

<b>Education</b>	Year	Examination	Institution	Score (Percentage)
	2001-2005	Anna University B.E. Semester Examinations (up to 6 <sup>th</sup> Sem)	Sri Venkateswara College of Engineering (SVCE), Chennai	90.19 (Core) 89.71 (Overall)

**Remarks : Department I (ECE)**  
**Class topper in all 6 semesters**

2001	Higher Secondary Examination (State Board-12 <sup>th</sup> )	Kamak Matriculation Higher Secondary School, Tuticorin	95.33
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**Remarks: School II Rank**

2000	Pre-Higher Secondary Examination (State Board-11 <sup>th</sup> )	Kamak Matriculation Higher Secondary School, Tuticorin	94.42
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**Remarks: District I Rank**

1999	All India Secondary School Examination (C.B.S.E.-10 <sup>th</sup> )	Shakthi Vinayakar Hindu Vidyalaya, Tuticorin	92.60
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**Remarks: District I Rank,  
0.1 Percentile Credit in Social Sciences**

**Academic Merits**

- ❖ Class (Batch ) topper in all six semester examinations
- ❖ One of the two students in B.E. (inclusive all departments of the college – 1000 students), to have a Core subject aggregate greater than 90%
- ❖ College First in First-year end examinations (common exam for all departments)

**Scholarships and Awards**

- ❖ Only student in the Department of Electronics and Communication to have won full tuition waiver merit scholarships.
- ❖ Received HHSJSS Scholarship in Semester V
- ❖ Received HHSCSS Scholarship in Semester VI
- ❖ Received Annual Merit Scholarship in Semester VII
- ❖ Received Annual Merit Scholarship in Semester VIII
- ❖ Also received several other merit certificates and cash awards.

**Supplementary Training**

Year	Course	Center	Remarks
2004	Continuing Education Program on <b>Digital Signal Processor and Applications</b>	<b>Analog Devices – IIT Madras, DSP Learning Center, Chennai</b>	-----
2003	Industrial Training in <b>Network Management, Printed Circuit Board Design, Microprocessor based System Design, Software Design</b>	<b>MIC Electronics, Hyderabad</b>	-----
2001	Course on <b>Visual Basic 6.0, Star Office Package, Web Designing- HTML</b>	<b>CSC (Computer Software College), Tuticorin</b>	(Grade-A Excellent)
2000	<b>Sun Java Programming</b>	<b>NIIT (National Institute of Information Technology), Tuticorin</b>	-----
1999-2000	<b>Advanced Certificate in PC Applications*</b>	<b>NIIT (National Institute of Information Technology), Tuticorin</b>	82.10% (Grade-Excellent)

**Final Year Project**

‘**Neuro-Image Analysis**’, under the auspices of **Stanford alumni at VulcanTech Inc.**, registered in the US.

**Professional Memberships**

- ❖ Student member of **Institute of Electrical and Electronics Engineers (IEEE)**
- ❖ Student member of **Communications Society (ComSoc)**
- ❖ Student member of **Signal Processing Society**
- ❖ Member of **IEEE’s college wing**
- ❖ Member of **Association of Electronics and Communication Engineers (AECE)** of the college

**Volunteer experience**

- ❖ Member of the Class Committee for two terms
- ❖ Former member of Rotaract Youth Wing

### Contribution to AECE National Symposium-Panorama 2003

- ❖ Developed dedicated software for registration of participants, management of registrants' particulars, and analysis of registrants' data with automatic slot allocation and on-line support, called 'Regis'.
- ❖ Developed circuits for 'Neural Notworking' - a Hardware Debugging contest.
- ❖ Participated in the reviewing and screening of papers.
- ❖ Overall monitoring.

### Extracurricular activities

#### Quiz:

- ❖ First place in 'Adolf Klein Trust and Y.M.C.A. District level Quiz competition'.
- ❖ Second place in the 'Rotary Club -RYA 2000 Quiz Competition'.
- ❖ Several other awards in Quiz at school and college

#### Talent Search:

- ❖ Within top 5% and **district first** in '**National Level Science Talent Search Examination**' conducted by the United Council for Educational Research and Scientific Advancement in Learning.
- ❖ Distinction scores in '**National level General Knowledge Test**', organized by the United Schools Organization of India, a subsidiary of United Schools Organization (USO), affiliated to UNESCO and VEC for United Nations (UN).

#### Mathematics Exams:

- ❖ Placed within the top 10% of school in '30th **Inter-State Talent Test in Mathematics**', conducted by 'The Association of Mathematics Teachers of India'.
- ❖ Secured 94% in the '**National Mathematics Olympiad Contest**', conducted by the 'Delhi Association of Mathematics Teachers'.

#### Contests in the Liberal Arts:

- ❖ Secured third place in the 'National Maritime Day Celebration essay contest'.
- ❖ Obtained consolation prize in 'Camel Champ National level Painting contest'.
- ❖ Won several other incentive certificates, honor certificates, merit certificates, proficiency certificates, in language based contests, elocution, poetry composition, essay scripting etc.

### Community activities

- ❖ Contributed articles to 'Quest', a division of 'The Hindu'.
- ❖ Appreciated by 'Helpage India' for his efforts in creating awareness and raising funds for elderly people.
- ❖ Took part in activities of Rotary youth wing.

### Other Software Skills

#### Programming Languages

- ❖ C, C++
- ❖ Java 1.2
- ❖ Visual Basic 6.0
- ❖ Python, wxPython
- ❖ Matlab 6.5

## Operating Systems

- ❖ MS/PCDOS
- ❖ UNIX
- ❖ Windows 9x,NT,2000,XP
- ❖ Red-Hat Linux Fedora

## DSP Programming

- ❖ TMS320C50 family
- ❖ TMS 320VC5416
- ❖ ADSP 2190 series
- ❖ ADSP 2192-12

## Other Utility Programs

- ❖ MS-Office, Open-Office, Star-Office
- ❖ AutoCAD, Lotus FoxPro, Dbase III Plus, WordStar
- ❖ Animation Designers (Macromedia Flash 7.0, MayaVi, VTK etc.),
- ❖ Graphic Design Utilities (Photoshop, etc.)

## PCB, Embedded Systems, Circuit Designing

- ❖ CADStar, CAMSoft
- ❖ OrCAD 9.0
- ❖ Circuit Maker 5.0
- ❖ ASP of x86
- ❖ ASP of Microcontroller 8051

## Projects

### At National Institute of Information Technology (NIIT)

Projects	Score
ISAS (Information Search and Analysis Skills)	90.00
Seminar – Project Presentation (Multimedia)	84.00
Application Development using database systems	85.00

### Other Projects

Project	Status
Development of novel frequency analyzer circuit	Completed - at Panorama 2003
Development of synchronous Constant Divider with applications in image processing	Initial simulations show optimal results
Vehicular tracking using Support Vector Machine (SVM)	In Progress
Image Segmentation	In Progress