

## NANDAKISHORE RAMASWAMY

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### Present Address

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### Permanent Address

777 West Middlefield Road, #103

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**OBJECTIVE** To obtain a challenging fulltime/internship position where I can use my electrical engineering and computing skills for the design and development of cutting edge products and technology.

**DATE AVAILABLE** September 2004

### EDUCATION

2002-Present ***M.S in Electrical Engineering*** from the University of Texas at Arlington,  
Texas

**GPA: - 3.7**

1997-2001 ***Bachelor of Engineering (B.E)*** in Electronics and Telecommunication from  
University of Pune, Pune, India

**Class: - First Class**

### AREA OF INTERESTS

Multimedia Compression, Digital Watermarking, Digital Image Processing, Wireless Communication, Computer Networks and Security/Encryption.

### RELEVANT COURSE WORK

Random Signals and Noise, Digital Image Processing, Data Compression and Video Coding, Discrete Transforms, Digital Signal Processing, Wireless Communication, Advanced Data Networks, Data Communication, Fiber Optic Communication, Communication Systems, Microprocessor Techniques, Systems Programming.

### PROJECTS

- Research Experience – Video authentication (integrity and sender verification) for H.264/MPEG-4 Part 10 Main Profile by using a digital signature. The digital signature is calculated using the Digital Signature Standard (DSS). The signature is carried in the Supplemental Enhancement Information part of the H.264 bit stream. The digital signature embedded is unique for every coded sequence of the video.
- Implemented the JPEG Baseline system and varied the quantization matrix to study the effects of quantization on reconstructed image quality.
- Physical layer simulation for a mobile-satellite based wireless modem subject to Rician channel fading with BER comparison for various values of power.
- Application of Variable Length Coding such as arithmetic coding, Huffman coding, Exp-Golomb coding and Run length coding to Images and Video sequences.
- Submitted a term paper on “Multimedia over ATM” as part of course work in Advanced Data Networks. The paper covered transport of compressed video over ATM and issues such as selection of AAL (ATM Adaptation layer), service class selection and constraint posed by Video on Demand applications.
- Performance comparison of discrete transforms such as DCT, DST and KLT for the first order Markov Process using different values of correlation.
- Applied various quantization (scalar and vector quantization) and interpolation schemes to images.
- Transform coding of grayscale images using various transforms such as KLT, DCT, DST and Slant demonstrating the transform’s compaction ability.
- Undergraduate Final Year Project: - Designed and implemented Distributed Numerical Control (DNC) for controlling CNC’s (Computerized Numeric Control) without operator intervention on a Windows based Platform for Antech Microsystems (Pune, India). Software implemented in Visual C++.

**TECHNICAL SKILLS**

Standards : H.264/MPEG4 Part 10, H.263, H.261, JPEG, JPEG-2000, MP3  
Operating Systems : DOS, Windows 9x/Me, Windows NT, Windows 2000, Linux.  
Prog. Languages : C, C++, Visual C++, and Visual Basic.  
Toolbox : MATLAB  
Others : Microsoft Front Page

**PROFESSIONAL SOCIETY MEMBERSHIPS**

- Member of IEEE (Institute of Electrical and Electronics Engineers).
- Member of ACM (Association for Computing Machinery).

**ACHIEVEMENTS, AWARDS & HONOURS**

- Secured the first place in Mathematics in Class X<sup>th</sup> (High School)
- Secured the first place in English in Junior College.

**REFERENCES**

Available upon request