

SHALINI GUPTA

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OBJECTIVE To solve challenging real-world problems in areas of signal/image/video processing, medical image analysis, pattern recognition, computer vision, and computer graphics.

EDUCATION **PhD, Electrical and Computer Engineering, expected June 2008**

The University of Texas at Austin, Austin, TX
Dissertation: *Novel Algorithms for 3D Human Face Recognition*
Advisor: A. C. Bovik, Co-advisor: M. K. Markey, GPA: 3.9/4.0

MSE, Electrical and Computer Engineering, May 2004

The University of Texas at Austin, Austin, TX
Thesis: *Combining multiple mammographic views for computer-aided diagnosis of breast cancer*
Advisor: J. Ghosh, Co-advisor: M. K. Markey, GPA: 4.0/4.0

BE, Electronics and Electrical Communication Engineering, May 2002

Punjab Engineering College, Chandigarh, India
GPA: 81.87% (equivalent to 4.0/4.0), Rank: 2/360 engineering graduates

**GRADUATE
COURSEWORK**

Current Topics in Medical Imaging
Tissue Anatomy and Physiology
Digital Signal Processing
Wavelets Theory and Applications
Probability and Stochastic Processes I
Advanced Computer Vision
Advanced topics in Data Mining

Intro to Artificial Intel in Bio and Med
Quant Sys Physiology and Pathophysiology
Digital Image and Video Processing
Optimization in Engineering Systems
Introduction to Pattern Recog & Comp Vision
Introduction to Neural Networks
Genetics

**WORK
EXPERIENCE**

AT&T Laboratories, Austin, TX

Summer Internship

May 2007 - July 2007

For IPTV, investigated visual impairments due to loss of specific H.264 compressed video packets. Worked with video servers (NLE), capture and spooling functions, video editors (Adobe Premiere), video quality analyzers (Genista, K-WILL, QOSMetrics); IP impairment test equipment (Anue/Spirent); H.264 encoders (Modulus) and decoders (Broadcom, Modulus).

Advanced Digital Imaging Research, LLC, Friendswood, TX

3 Summer Internships

June -Aug. 2004, 2005, 2006

Developed successful novel algorithms for 3D facial recognition (US Patent Application No. 11/585,402).

SKILLS

- **Assembly Languages:** Intel 8085, Intel 8086, MC68HC11F1
- **High-level Languages/Tools:** C, MATLAB, Mathematica, SAS, Adobe Premier, \LaTeX
- **Platforms:** OS X, Unix/Linux, Windows
- **Spoken Languages:** English, Hindi
- **Personal:** Proactive, well-organized, responsible, creative and analytical thinker, excellent verbal and written communication skills

PUBLICATIONS • **Refereed Journals:**

1. S. Gupta, W. C. Kan, M. K. Markey, *Reducing the variability in pattern classifier outputs using histogram shaping*, **Medical Physics**, (in preparation).
2. S. Gupta, P. F. Chyn, M. K. Markey, *Breast cancer CAD_x based on BI-RADSTM descriptors from two mammographic views*, **Medical Physics**, 2006, 33:1810- 1817.
3. S. Gupta and M. K. Markey, *Correspondence in Texture Features Between Two Mammographic Views*, **Medical Physics**, 2005. 32:p.1598-1606.

HONORS AND AWARDS

- Recipient, **Travel grants**, Center for Perceptual Studies and Graduate Students Association, UT Austin, 2007.
- Recipient, **Student Scholarship**, Medical Image Perceptions Society, 2003.
- Recipient (among 100 students all over India), prestigious **Summer Research Fellowship**, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore, India, 2001.
- Recipient, **Complete Tuition Waiver** (top 5% ECE graduates), Panjab University, 1999 - 2002.
- Recipient, **Academic Scholarship** (top 15 engineering graduates), Panjab University, 1999 - 2002.

ACADEMIC EXPERIENCE

ECE - UT Austin, Austin, TX

Graduate Research Assistantship

Aug. 2004 - May 2006

Created novel 3D human face recognition algorithms, presented at numerous competitive conferences.

BME - UT Austin, Austin, TX

Graduate Research Assistantship

Jan. 2003 - Dec. 2003

Developed novel algorithms for mammographic CAD_x, published work in Medical Physics.

EE - Indian Institute of Science, Bangalore, India

Summer Research Fellowship

June 2001 - Aug. 2001

Implemented 'eigenfaces' 2D face recognition algorithm, and other image processing techniques in C++.

EE - Indian Institute of Technology, New Delhi, India

Summer Research Assistantship

May 2000 - July 2000

Implemented image edge detection techniques in C.

TEACHING EXPERIENCE

BME -UT Austin, Austin, TX

Teaching Assistantship, Senior Design

Aug. 2007 - Present

Lead, coordinate and manage senior design project teams.

BME -UT Austin, Austin, TX

Teaching Assistantship, Intro to Programming

Jan. 2007 - May 2007

Effectively communicated MATLAB/Mathematica programming concepts (instructor rating 4.8/5.0).

BME -UT Austin, Austin, TX

Teaching Assistantship, Intro to Programming

Aug. 2006 - May 2007

Independently created novel programming assignments in MATLAB/Mathematica (course rating 4.7/5.0).

BME - UT Austin, Austin, TX

Teaching Assistantship, Biostatistics

Jan. 2004 - May 2004

Effectively communicated concepts of statistics and probability to students (instructor rating 4.5/5.0).

ECE - UT Austin, Austin, TX

Teaching Assistantship, Engineering Economics

Aug. 2002 - Dec. 2002

Explained concepts of engineering economics to students and graded assignments.

VISA STATUS

Indian National with F1 Student Visa

REFERENCES

- Alan C. Bovik, Professor, ECE, UT Austin, TX
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- J. K. Aggarwal, Professor, ECE, UT Austin, TX
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- Mia K. Markey, Assn. Professor, BME, UT Austin, TX
mia.markey@mail.utexas.edu, Ph: 1 (512) 471 1711
- M. Zaman, Assn. Professor, BME, UT Austin, TX
mhzaman@mail.utexas.edu, Ph: 1 (512) 471 4205
- K. R. Castleman, (retired) President, Advanced Digital Imaging Research LLC, Friendswood, TX
castleman@earthlink.net, Ph: 1 (713) 254 3709
- Pierre Costa, Lead Member of Technical Staff, AT&T Laboratories, Austin, TX
Pierre_Costa@labs.att.com, Ph: 1 (512) 372 5849