

## Fred W. Hudson, Jr.

### 1. Degrees

Ph.D. Electrical Engineering                      University of Texas at Austin, 1979  
B.S. Mathematics                                      Texas A&I, Kingsville, TX, 1967

### 2. Service at UTSA

Years of service: 8.5 years

- Original Appointment as Associate Professor, Electrical Engineering, September 2000
- Appointed to MS Management of Technology faculty (Information Science and Technology Management Department in COB) concurrently
- Member of Honors faculty
- Teach Computer Engineering

### 3. Other Related Experience

- Assistant Professor – UT Pan American 1991-1996 (began Electrical Engineering Program)
- Adjunct – UT Austin, Electrical Engineering 1979-1980, 1982-1991, 1996-2003

### 4. Industrial Career

Designed, developed, managed, planned, marketed computer-based/embedded systems. Texas Instruments, 1967-1970; Seaco Computer Display' 1970-1972; UT-Austin (Astronomy), 1972-1980; Bell Labs 1980-1982; Bausch & Lomb, 1982-1985; Schlumberger, 1985-1987, BDM, 1987-1988, Nth Graphics, 1988-1991; IBM, 1995-2000

### 6. Principal Recent Publications

- *Modeling Property Value Loss in a City Due to Terrorist Bombings*, Ericka Stoltz, J. Keith Clutter and Fred Hudson. IEEE Systems Journal - accepted for publication 2008.
- *Development Of Rules-Based Network Intrusion Detection System*, Parimal Patel, Hari Ramineni, Wei-Ming Lin, and Fred Hudson, (UTSA) 2004 South Central Information Security Symposium (SCISS '04) April 23-24, 2004.
- *A Real-Time Ad Hoc Packet Matching Technique for Hardware-Based Network Intrusion Detection Systems*. Wei-Ming Lin, Ramu Madhavaram, Parimal Patel, Fred Hudson (The University of Texas at San Antonio, USA), 19th International Conference on Computers and Their Applications (CATA-2004) March 18-20, 2004.
- *Fingerprint Verification in Multimodal Biometrics*, Naveena Marupudi, Eugene John and Fred Hudson, Department of Electrical & Computer Engineering University of Texas at San Antonio, 2006 IEEE Region 5 Technology and Science Conference, 2006 University of Texas, San Antonio, TX, APRIL 7-8, 2006.
- *Natural Language Order - A Streamlined Approach to Modeling*, Benjamin Dinan, Fred Hudson Jr, PhD (The University of Texas at San Antonio), 2006 IEEE Region 5 Technology and Science Conference, 2006 University of Texas, San Antonio, TX, APRIL 7-8, 2006.

- *Biomechanics as a Tool or Teaching Minority Students*, Dawnlee Roberson, Fred Hudson, University of Texas-San Antonio, 2006 ASEE Annual Conference & Exposition, Chicago, Illinois, June 18-21, 2006.
- *Visualizing Muscle Tissue Using Natural Language*, Fred Hudson and Benjamin Dinan, University of Texas at San Antonio, Texas, USA. The 2006 World Congress in Computer Science, Computer Engineering, and Applied Computing (MSV'06) Las Vegas, Nevada, USA, June 26-29, 2006.
- *Performance Analysis of Embedded Applications on a Pentium-4 Based Machine*, Pradeep S. Nair, Dhireesha Kudithipudi, Eugene B. John, and Fred W. Hudson, The University of Texas - San Antonio, The 2006 World Congress in Computer Science, Computer Engineering, and Applied Computing (ESA'06) Las Vegas, Nevada, USA, June 26-29, 2006.
- *Remote Fingerprint Entry Verification Using Bluetooth Wireless Technology*, Jinping Tang, Fred Hudson & Eugene John, Department of Electrical and Computer Engineering, The University of Texas at San Antonio, GSPX 2006 Global Signal Processing Expo & Conference, Oct 30 - Nov 2, 2006.
- *Fingerprint Verification Based on Image Filtering of Ridges*, Naveena Marupudi, Fred Hudson & Eugene John, Department of Electrical and Computer Engineering, The University of Texas at San Antonio, GSPX 2006 Global Signal Processing Expo & Conference, Oct 30 - Nov 2, 2006.

#### **9. Institutional and Professional Service in the Last Five Years**

- Over 100 departmental, college and university committee activities over 6.5 years
- Session chair - WORKSHOP on UNIQUE CHIPS and SYSTEMS (UCAS-1) in conjunction with IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS05)
- Session Chair - WORKSHOP on UNIQUE CHIPS and SYSTEMS (UCAS-2) in conjunction with IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS06)
- Session Chair - WORKSHOP on UNIQUE CHIPS and SYSTEMS (UCAS-2) in conjunction with IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS08)
- Technical Planning committee - IEEE Region 5 Technology and Science Conference, 2006 University of Texas, San Antonio, TX, APRIL 7-8, 2006.

#### **10. Teaching**

- Teach Computer Engineering
- Supervised 5 Master's Theses EE (2003, 2004, 2006, 2006, 2008)
- Supervised 9 Professional Reports for MOT

#### **11. Expertise**

- Real-time/embedded systems development, including control, data acquisition, robotics, signal processing, human interfaces – C++, Java, assembly programming
- Security systems for IT intrusion detection, biometrics and IED detection
- Visualization, computer graphics hardware, system hardware/software integration
- Project management, technology and innovation, technical supervision, system test and verification