

## THOMAS D. KITE

17202 SW Sarala St, Beaverton OR 97007

Work phone: (503) 627-0832 — Home phone: (503) 848-2555

E-mail: tomk@ap.com

### EDUCATION

#### University of Texas at Austin, Austin, TX

Ph. D. in Electrical Engineering (Image Processing), August 1998. GPA 4.0/4.0

Dissertation: *Design and quality assessment of forward and inverse error diffusion halftoning algorithms.*

Advisors: Dr. Alan C. Bovik, Dr. Brian L. Evans

#### University of Texas at Austin, Austin, TX

Master of Science in Electrical Engineering (Acoustics), December 1993. GPA 4.0/4.0

Thesis: *Improving low-frequency driver response using an amplifier with negative output impedance.*

Advisor: Dr. E. L. Hixson

#### Oxford University, Oxford, England

Bachelor of Arts in Physics, June 1991

### WORK EXPERIENCE

#### 2/99–present DSP Engineer, Audio Precision, Beaverton, OR

DSP algorithm and filter design for audio test and measurement products. Complete algorithm design from product specification to finished code, via theory, modeling and simulation. Hand optimization of assembly code for Motorola 56300 DSP.

#### 7/98–10/98 Summer Intern, Xerox Corporation, Webster, NY

Worked in the Color and Digital Imaging Systems department. Developed algorithms to perform robust segmentation on JPEG-compressed documents for use in digital copiers.

#### 8/91–5/98 Teaching Assistant, University of Texas at Austin, Austin, TX

- Devised and graded homeworks, lectured to graduate students in DSP and image processing courses EE381K and EE371R
- Devised DSP, analog and acoustics projects and supervised senior undergraduate students in laboratory design course EE464K
- Taught, tested and supervised undergraduate students in digital design course EE316

#### 5/97–8/97 Summer Intern, Hewlett-Packard Laboratories, Palo Alto, CA

Worked in the Imaging Technology Department. Developed code in C and Perl to perform digital watermarking, image filtering, and secure printing over the Internet (patent applied for).

#### 1/97–3/97 Contract Programmer, Motorola, Inc., Austin, TX

Performed optimization on Motorola 56300 and 56600 assembly code for communication systems. Operations included DTMF detection and generation, FSK, and echo cancellation.

#### 5/93–8/94 Contract Programmer, Invision, Inc., Houston, TX

Developed real-time image processing algorithms in C and Motorola 56002 assembly to perform vehicle detection at intersections for traffic control using feed from a video camera.

## RESEARCH EXPERIENCE

- 1/95–8/98 University of Texas at Austin, Austin, TX
- Design and quality assessment of forward and inverse halftoning schemes (Ph.D. project).
  - Development of lossy and lossless image compression schemes for multispectral satellite data (Project sponsored by NASA).
- 5/93–12/93 University of Texas at Austin, Austin, TX  
Complete investigation of the effects of negative amplifier output impedance in driving moving-coil loudspeaker drivers (Master's project).
- 3/91–4/91 Oxford University, Oxford, England  
Research work in optics lab including designing and building a hybrid analog hardware and 80286 assembly code software project to drive a laser for use in crystallography.

## SELECTED PUBLICATIONS

- T. D. Kite, N. Damera-Venkata, B. L. Evans, and A. C. Bovik, "A Fast, High Quality Inverse Halftoning Algorithm for Error Diffused Halftones", *IEEE Transactions on Image Processing*, vol. 9, no. 9, pp 1583–1592, September 2000.
- T. D. Kite, B. L. Evans, and A. C. Bovik, "Modeling and Quality Assessment of Halftoning by Error Diffusion", *IEEE Transactions on Image Processing*, vol. 9, no. 5, pp. 909–922, May 2000.
- N. Damera-Venkata, T. D. Kite, W. S. Geisler, B. L. Evans, and A. C. Bovik, "Image Quality Assessment Based on a Degradation Model", *IEEE Transactions on Image Processing*, vol. 9, no. 4, pp. 636–650, April 2000.
- P. Wong, D. Tretter, T. Kite, Q. Lin, and H. Nguyen, "A Web-based Secure System for the Distributed Printing of Documents and Images", *Journal of Visual Communication and Image Representation*, vol. 10, no. 1, pp. 1–11, March 1999.
- T. D. Kite, B. L. Evans, and A. C. Bovik, "Fast Rehalftoning and Interpolated Halftoning Algorithms with Flat Low-Frequency Response", *Proc. IEEE Int. Conf. on Image Processing*, vol. III, pp. 602–606, Oct. 25–28, 1999, Kobe, Japan.
- T. D. Kite, N. Damera-Venkata, B. L. Evans, and A. C. Bovik, "A High Quality, Fast Inverse Halftoning Algorithm for Error Diffused Halftoned Images", *Proc. IEEE Int. Conf. on Image Processing*, vol. II, pp. 59–63, Oct. 4–7, 1998, Chicago, IL.
- N. Damera-Venkata, T. D. Kite, M. Venkataraman, and B. L. Evans, "Fast Blind Inverse Halftoning", *Proc. IEEE Int. Conf. on Image Processing*, vol. II, pp. 64–68, Oct. 4–7, 1998, Chicago, IL.

## SKILLS

- Computer languages: C, C++, Perl, MATLAB, Motorola 56xxx assembly, Intel 80x86 assembly.
- Other computer skills: UNIX system administration, HTML, PSPICE, MS-DOS, Windows NT/9x, Mac OS.
- Design and hardware skills: Design and build of Z-80 based computer systems, audio amplifiers and processors, power supplies, and other analog hardware. Troubleshooting analog and digital hardware.
- Foreign languages: French, German.