Sameh Sowelam

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Objective

A summer internship position that requires expertise in ultrasound imaging.

Education

Ph.D. candidate in Electrical Engineering, (March 1994 - Present)
University of Minnesota, Minneapolis, MN
Dissertation: *Adaptive Image Acquisition and Classification.*
Thesis advisor: Prof. Ahmed Tewfik

M.A.Sc. in Electrical Engineering, (Jan. 1993)
University of Toronto, Toronto, ON, Canada
Thesis: *A Packet Loss Recovery Scheme for Images and Video.*
Advisor: Prof. Alberto Leon-Garcia

B.Sc. in Electrical Engineering, (July 1988)
Cairo University, Cairo, Egypt. (GPA 3.96)

Experience

3/93–Present **University of Minnesota**, Dept. of Electrical Engineering, Minneapolis, MN
Research Assistant

- Analyzed existing image processing techniques for range-Doppler radar imaging.
- Developed an optimal adaptive wideband image acquisition scheme for radar and medical applications.
- Designed optimal waveforms for simultaneous imaging and classification of targets belonging one of a multiple of target classes.
- Analyzed the performance of the optimal target reflectivity function estimation procedure through computer simulations.

9/90–1/93 **University of Toronto**, Ontario, Canada
Research Assistant

- Developed algorithms for packet loss recovery of image and video information carried over asynchronous transfer mode (ATM) based communication networks.
- Analyzed the effect of image and video packet loss on JPEG and MPEG coded images and video transmitted over ATM based networks.

8/88–1/90 **Research and Electronics Manufacturing**, Cairo, Egypt

- Designed, built and tested microcontroller-based systems for data acquisition and control.

Teaching Experience

1/90–8/90	**Cairo University**, Dept. of Electrical Engineering, Cairo, Egypt Teaching assistant • Courses: communication and control theory.
1/91–5/92	**University of Toronto**, Dept. of Electrical Engineering, Toronto, Canada. Teaching assistant • Courses: linear systems theory.

Publications

S. Sowelam and A. H. Tewfik, "Adaptive Waveform Selection in range-Doppler imaging: The two target class case", to be submitted to *IEEE Trans. on Image Processing*, March 1995.

S. Sowelam and A. H. Tewfik, "Multiple Target Class Adaptive Wideband Radar Imaging", to be published in *the Proc. of the 1995 SPIE Intl. Conf. on Wavelet Applications for Dual Use*, Orlando, Florida, April 17-21, 1995.

S. Sowelam and A. H. Tewfik, "Optimal Waveform Selection in Range-Doppler Imaging", *Proc. of the 1994 IEEE Intl. Conf. on Image Processing*, Austin, Texas, vol. I, pp. 441-445.

A. H. Tewfik, S. Hosur and S. Sowelam, "Recent Progress in the Application of Wavelets in Surveillance Systems", *Optical Engineering*, vol. 33. no. 8, pp. 2509-2519, Aug. 1994.

Awards & Activities

Honors Award for Academic Excellence, Top of class of 200 students, Cairo University, (1988).
Student member of IEEE.

Computer Skills

Languages: C, Fortran, Pascal, Basic, HTML.
Operating Systems: Unix, VMS, MS-DOS.
Software Packages: MATLAB, LaTeX, etc.

References

Prof. Ahmed Tewfik
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