

Nancy F. Chen

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Citizenship: USA

Education

- **Massachusetts Institute of Technology**, Cambridge, MA 2004 – present
PhD candidate, Harvard-MIT Health Sciences and Technology (GPA:4.7/5.0)
- **National Taiwan University**, Taipei, Taiwan
MS in Integrated Circuits and Systems (**Cum Laude**, GPA: 4.0/4.0) 2004
BS in Electrical Engineering (GPA:3.7/4.0) 2002

Work/Research Experience

- **COGITO HEALTH INC.**, Charlestown, MA Feb-May 2009
Consultant (Entrepreneurship Lab, MIT Sloan School of Management)
 - Conducted primary research and analyzed go-to-market strategies for depression monitoring software.
- **VLINGO INC.**, Cambridge, MA Jul - Oct 2008
Consultant
 - Inspected speaker adaptation technology and patents for litigation process.
- **MIT, LINCOLN LABORATORY**, Lexington, MA Jul 2007-present
Graduate Research Assistant, Information Systems Technology Group
 - Investigating English pronunciation patterns for language learning tools
 - Brief high-ranking government officials on technology
- **BAE SYSTEMS**, Burlington, MA Jan 2007-present
Research Consultant
 - Devise evaluation framework for improving speech communication in noisy environments.
 - Project won **BAE's bronze medal** and initiated Biological, Audio, & Speech Signals Group.
- **MASSACHUSETTS INSTITUTE OF TECHNOLOGY**, Cambridge, MA Jul 2005-present
Graduate Research Assistant, Research Laboratory of Electronics
 - Automatically determining acoustic landmarks for speech recognition.
 - Analyzed acoustic parameters of nasalized vowels to quantitative speech pathology diagnosis.
- **NATIONAL TAIWAN UNIVERSITY**, Taipei, Taiwan Jul 2002-Jul 2004
Graduate Research Assistant, Electronics Engineering Institute
 - Implemented echo cancellers for 1000 Base-T Gigabit Ethernet to reduce cost by 30%.
 - Examined equalization methods for enhanced data rates for global evolution for VIA Technologies.
- **DELTA ELECTRONICS**, Chung-Li, Taiwan Jul 2001-Jul 2002
Engineering Intern
 - Remodeled DC-DC Buck converters

Publications

- Lulich, S, Caspo, T, **Chen, N. F.**, Estimation of subglottal resonances based on F2 measurements and its application in consonant-vowel sequence classification in English and Hungarian, JASA., in preparation.
- Lulich, S. and **Chen N.**, Automatic classification of consonant-vowel transitions based on subglottal resonances and second formant frequencies, submitted to Proceedings of Meetings on Acoustics.
- **Chen, N.**, Shen, W., Campbell, J., Schwartz, R. Large-Scale Analysis of Formant Frequency Estimation

Variability in Conversational Telephone Speech, Interspeech 2009.

- Shen, W., **Chen, N.**, Reynolds, D., Dialect Recognition using Adapted Phonetic Models, Interspeech, 2008.
- Meltzner, G., Sroka, J., Heaton J., Gilmore, L., Colby, G, Roy, S., **Chen, N.**, De Luca, C., Speech Recognition for Vocalized and Subvocal Modes of Production using Surface EMG Signals from the Neck and Face, Interspeech, 2008.
- **Chen, N. F.**, Slifka, J. L., Stevens, K. N., Vowel Nasalization in American English: Acoustic Variability due to Phonetic Context, International Congress of Phonetic Sciences, Aug 2007.
- Lin, H. P., **Chen, N. F.**, Lai, J. T., Wu, A. Y., 1000 BASE-T Gigabit Ethernet Baseband DSP IC Design, IEEE International Symposium on Circuits and Systems, May 2004
- Lin H. P., Lai, J. T., **Chen, N. F.**, Wu, A. Y., A 1-Gb/s Variable Step-Sized Partial Update Echo Canceller with Joint Decision Feedback Equalizer and Trellis Decoder for 1000BASE-T Gigabit Ethernet, Proc. VLSI Design/CAD Symposium, Aug 2003.

Conference Abstracts

- **Chen N.**, Wade Shen, Joseph Campbell, Reva Schwartz. Large-scale analysis of formant frequency estimation variability in conversational telephone speech, the 38th annual meeting of New Ways of Analyzing Variation (NWAV), 2009.
- **Chen, N.**, Shen, W., Campbell, J. A Linguistically-Informative Approach to Dialect Recognition using Dialect-Specific Context-Dependent Phonetic Modeling, J. Acoust. Soc. Am., Nov. 2009.
- **Chen, N.** and Lulich, S., Automatic Classification of Consonant-Vowel Transitions Based on Subglottal Resonances and Second Formant Frequencies, J. Acoust, Soc. Am., May 2009.
- Chu, Chi and **Chen N.**, Stop-like modification of dental fricatives in Indian English a preliminary study to perceptual experiments, J. Acoust. Soc. Am., May 2009.
- Park, C. and **Chen, N.**, Consonant landmarks: automatic detection and interpretation, J. Acoust. Soc. Am. 124(4):2527, 2008
- Park, C., **Chen, N. F.**, and Jung, Y., Interpreting Acoustic Landmark Sequences in English, J. Acoust. Soc. Am. 122, 2972, 2007.

Honors

NIH Ruth L. Kirschstein National Research Service Award (04-08), MIT Graduate Student Council Travel Grant (07), Phi Tau Phi Scholastic Honor Society (04), Young Entrepreneur of the Future, Epoch Foundation (03), Taiwan National Science Council Fellowship (02-04), Delta Fellow, Delta Electronics Inc. (02), Presidential Award (98, 99)

Skills

- **Computer Languages:** C/C++, Matlab, perl, tcl, awk, Fortran, Verilog, HTK, LaTeX
- **Natural Languages:** Bilingual in English and Mandarin, Basic speaking in Min and Japanese

Leadership at MIT

- **Founding member & Certified Mediator**, REFS (Resources for Easing Friction and Stress) at Electrical Engineering and Computer Science Department 2006-present
- **Committee Member**, Health Sciences and Technology Admissions Committee 2006-present
- **Founder**, Taiwanese Career Fair 2006-2008
- **Co-Chair**, International Graduate Mentorship Program 2005
- **Vice President**, ROC Student Association 2005-2007
- **Representative** of Whitaker College, Graduate Student Council 2004-2005