

Michel Tah Tung Jackson, Ph.D.

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SUMMARY: Software programmer/analyst and project manager on a wide variety of commercial, educational, and scientific, research and development projects.

SKILLS: Experienced programmer (C#, VB.Net, SQL, Java, MATLAB, VB, C/C++ and others), including UML (Visual Paradigm, Visio), version control (Perforce, VSS, TFS) and defect-tracking (TestTrack Pro, FogBugz, TFS). Software design and specification. Experienced in both scientific and product-oriented research and development. Excellent analytical skills. Work well in collaborative teams and independently.

EXPERIENCE

Sensimetrics Corporation: Contractor

2010-Present (part-time)

- Software development on the Navy HeLPS project: educational multimedia for Military Hearing Preservation education toolkit:
 - designed and implemented XML script-driven multimedia Presentation Player in .Net 3.5 (Visual Studio 2010; VB.Net & C#).
 - designed and implemented Presentation Designer for assembling multimedia components (video, audio clips, hearing loss simulations, etc.) and generating XML presentation scripts in .Net 3.5.
 - implemented over 900 unit tests using NUnit framework.
 - drafted HTML on-line Help pages.
- Collaborated closely with videographer / graphic designer / multimedia production staff to achieve desired presentation appearance and tune user interface.

Mediwatch USA: Contractor

2012-Present (part-time)

- Collaborated closely with videographer / graphic designer / multimedia production staff to achieve desired presentation appearance and tune user interface.

CRess LLC: Researcher

2006-2012

- Research and publication in Speech Science under NIH grant NIDCD-001247.
- Scientific software development in MATLAB:
 - developed MATLAB scripts for processing x-ray images of speech and automating measurements from the processed images.
 - developed MATLAB tools for acoustic analysis of speech using the variable bandwidth time-frequency S-transform.
- Statistical analysis of measurements taken from MRI images vocal tract organs during vowel production.

Nuance Communications: Contractor

1995-2010

(Predecessor companies acquired or merged included Dictaphone Corp., units of Lernout & Hauspie, fonix Corp., and Articulate Systems Inc.)

- Specified and redesigned PowerScribe 5.0 DB in SQL Server 2005 & 2008, including managing remote DB development contractor.
- Analyzed and fixed DB performance issues and deadlocks, using DB tracing and SQL Profiler during development/testing and at sites.
- Implemented new HL7 messaging features in PowerScribe 5.0.
- Designed PowerScribe Admin tab for HL7 configuration in PowerScribe 5.0.

- Implemented and tested new features in PowerScribe PACSBridge application.
- Maintained specifications and documentation for PowerScribe API and PowerScribe PACSBridge application in PowerScribe 4.x – 5.0.
- Continuing Engineering (escalated Technical Support issues) in PowerScribe 4.x/3.x Dictation Client (C++), PowerScribe API (C++ COM object), PACSBridge application (VB), webservices (Java), and DB (SQL).
- Designed (Java) webservice interface, SQL code for PowerScribe 4.x OrderEntry application.
- Designed, implemented, tested, and maintained C++ parser/generator for HL7 messages for PowerScribe 3.0 – 5.0.
- Designed, implemented, tested, and maintained VB COM objects using ADO for table-driven HL7 message mapper/interpreter for PowerScribe 3.0 – 5.0.
- Led group constructing prototype Radiology vocabulary for speech recognition in the first version of the PowerScribe Radiology dictation application.

Unveil Corporation: Contractor

2001-2003

- Developed XML editor in Java using Swing UI for Unveil's tag dictionary for research in Unveil's proprietary text-analysis technology.
- Developed flat-file → XML conversion utility for preliminary version of Unveil's dictionary (Java application); various consistency checks included for processing hand-made flat-file input.

Sensimetrics Corporation: Staff Scientist

1999-2000

- Project management and multimedia software development for NIH Phase I SBIR “A Middle-School Cell Biology Course”; used Macromedia Director to produce prototype courseware on CD.
- Principal Investigator, NIDCD Phase I SBIR “Course Software in Articulation and Phonology”; used Asymetrix Toolbook and OpenScript to develop prototype courseware; led test-teaching and evaluation effort with faculty collaborators at various universities.

Emerson College: Instructor

1998 –1999

- Taught Speech Science and Instrumentation.

Sensimetrics Corporation: Consulting Scientist

1996 –1999

- Supervised final development and release of multimedia courseware in acoustic phonetics.

Emerson College: Instructor

1995 –1996

- Taught Speech Science and Instrumentation.
- Co-taught Honors 201, Interdisciplinary Seminar for Honors Program.

Sensimetrics Corporation: Staff Scientist

1994 –1995

- Developed an interactive multimedia college-level course in acoustic phonetics. Managed a development team consisting of interactive designers, graphic designers, and software developers.

Speech Communication Group, Research Laboratory of Electronics, MIT:

NIH Postdoctoral Fellow

1990 –1991

- Research on alternating magnetic field articulatory tracking devices and articulatory modeling of vowels.

The Ohio State University: Assistant Professor

Oct 1989 – Dec 1993

- Taught Anatomy & Physiology of Speech and Voice Mechanism, Acoustic Phonetics, Experimental Phonetics, Intro. to Speech Science, seminars on Dissection of the Human Vocal Tract; Child Phonetics; co-taught Articulation; seminars in: Articulatory Modeling, Airflow in Speech, Speech Synthesis.

Yale University: Lecturer

1988 – 1989

- Taught Introduction to Linguistics, General Phonetics, and Seminar in Phonetics.

EDUCATION

1986-1988 Ph.D. in Linguistics, University of California, Los Angeles.

1983-1986 M.A. in Linguistics, University of California, Los Angeles.
1979-1983 B.A. cum laude in Molecular Biophysics & Biochemistry and Linguistics with distinction in Linguistics, Yale University.

AWARDS

Oct 1999-Sep 2000, National Institutes of Health Phase I Small Business Innovation Research (PHS Grant 9 R44 DC 03744-01): "Course Software in Articulation and Phonology"
Oct 1993-Sep 1995, National Institutes of Health Phase II Small Business Innovation Research (PHS Grant 9 R44 MH 51970-02): "Computer-Based Course in Acoustic Phonetics"
Jun 1990-Mar 1991 NIH Postdoctoral Fellowship (PHS Grant 8 T32 DC 000005 15 to MIT Speech Communication Group)
Jan 1988, NSF Dissertation Research Grant (BNS-8713522): "Phonetic theory and cross-linguistic variation in vowel articulation"

PUBLICATIONS

Jackson, M. T.-T., and McGowan, R. S. 2012. "A study of high front vowel with articulatory data and acoustic simulations", *J. Acoust. Soc. Am.* **131**, 3017-3035.
McGowan, R.S., Jackson, M.T.-T. & Berger, M.A. 2012. "Analyses of vocal tract cross-distance to area data: An investigation of a set of vowel images", *J. Acoust. Soc. Am.* **131**, 424-434
Jackson, M. T.-T., and McGowan, R. S. 2010. "A method for finding constrictions in high front vowels", *J. Acoust. Soc. Am.* **127**, EL6-EL12.
Jackson, M. T.-T., and McGowan, R. S. 2008. "Predicting midsagittal pharyngeal dimensions from measures of anterior tongue position in Swedish vowels: Statistical considerations", *J. Acoust. Soc. Am.* **123**, 336-346.
Jackson, M. T.T., Espy-Wilson, C. Y., and S. E. Boyce. 2001. "Verifying a vocal tract model with a closed side-branch", *J. Acoust. Soc. Am.* **109**, 2983-2987.
Espy-Wilson, C. Y., S. E. Boyce, M. Jackson, S. Narayanan, and A. Alwan. 2000. "Acoustic modeling of American English /r/", *J. Acoust. Soc. Am.* **108**, 343-356.
Jackson, M. T. T., Ed. 1997. *Sensimetrics Series in Human Communication: Speech Production and Perception I*. (Multimedia courseware.) Cambridge, MA: Sensimetrics Corporation.
Perkell, J., M. Cohen, M. Svirsky, M. Matthies, I. Garabieta, and M. Jackson. 1992. "Electromagnetic midsagittal articulometer (EMMA) systems for transducing speech articulatory movements", *J. Acoust. Soc. Am.* **92**, 3078-96.
Traill, A. and M. T. T. Jackson. 1988. "Speaker variation and phonation type in Tsonga nasals", *Journal of Phonetics* **16**, 385-400.
Jackson, M. T. T. 1988. "Analysis of tongue positions: language-specific and cross-linguistic models", *J. Acoust. Soc. Am.* **84**, 124-143.
Ladefoged, P., I. Maddieson, and M. T. T. Jackson. 1988. "Investigating phonation types in different languages". In *Vocal Physiology: Voice Production, Mechanisms, and Functions (Vocal Fold Physiology Series, Vol. 2)*. ed. O. Fujimura. New York: Raven Press.