

# CATHERINE H. VUONG

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## Skills

- Programming Languages: QBASIC, Visual Basic, C, C++, Obj-C/Cocoa, Java, Macros, VHDL, VEE, MIPS, MatLAB, Python, Quartz Composer
- Revision Control Systems: ClearCase, CVS, and RCS
- Microprocessors : 68HC12 Microprocessor and PIC Microcontroller
- Radio Frequency Testing Equipment: Spectrum Analyzer, Signal Generators, Network Analyzer, Noise Figure Meters, Oscilloscope
- Power and Voltage Testing Equipment: Digital Multimeter, DC Power Supply, Multifunction Switch/Measure Unit
- Mechanical Test Machines: Tinius Olson and United
- Proficient in Microsoft Office

## Education

- **Arizona State University**, Bioengineering Ph.D. Student  
Tempe, Arizona  
Bioengineering  
Art, Media and Engineering  
Center for Adaptive Neural Systems  
Research Interest: Interactive Multimedia Parkinson's Rehabilitation
- **Marquette University**, Graduated May 2008  
Milwaukee, Wisconsin  
Bachelor of Science in Biomedical Engineering  
Major: Biomedical Computer Engineering  
Minor: Biology  
GPA of 3.5 on a 4.0 scale, Cum Laude
- **Temescal Canyon High School**, Graduated June 2003  
Lake Elsinore, California  
GPA of 4.1 on a 4.0 scale, Valedictorian

## Work Experience

**Intern, Software Engineer - X-Ray Saber Positioner Software Team** **Summer 2007**  
**GE Healthcare, Waukesha, Wisconsin**

Designed, tested and implemented automated calibration software to replace the manual calibration software in order to reduce human error and the amount of time necessary for a field engineer to setup and calibrate X-Ray products.

**Intern, Receive Chain Test Engineer – Magnetic Resonance Signal Electronics Team** **Fall 2006**  
**GE Healthcare, Waukesha, Wisconsin**

- Tested and analyzed component circuit boards
- Updated interface for more efficient data analysis
- Setup of automated testing using Visual Engineering Environment (VEE)
- Modulation of existing VHSIC Hardware Description Language (VHDL) code

**Intern, Software Engineer –** **Spring/Summer 2006**  
**Molecular Imaging & Computed Tomography Applications Team**  
**GE Healthcare, Waukesha, Wisconsin**

Developed user interface for integration of Positron Emission Tomography and Computed Tomography images.

**Intern, Engineer - Image Quality Group** **Summer 2005**  
**GE Healthcare, Waukesha, Wisconsin**

- Data analysis of test images
- Developed macros templates for data analysis

**Work Experience (cont.)****Intern, Mechanical Test Technician – Engineering R&D Lab and the QA Lab****Summer 2004****Goodrich Aerostructures, Riverside, California**

- Conducted mechanical tests and composites lay-up
- Used the Scanning Electron Microscope to examine potting compounds
- Gained “hands-on” experience with a variety of different materials including composites, primers, adhesives, core, and fasteners used in the fabrication of jet aircraft nacelle structures

**Publications****Published Abstracts / Poster Presentations**

- **C. Vuong**, W. Yu, L. M. Gonzales, T. Ingalls, B. Peng, I. Wallis, J. Hwang, “Mixed-Reality Systems Aid Movement Parameters Through the Combination of Multimodal Cueing, Feedback Techniques, and the BIG Protocol”, Annual Biomedical Research Conference For Minority Students, Phoenix, AZ, USA, November 4-7, 2009
- L. M. Gonzales, **C. Vuong**, T. Ingalls, W. Yu, E. Campana, J. Hwang, B. Peng, I. Wallis, “Auditory Feedback Enhances Motor Learning in a Mixed-Reality Environment”, Annual Biomedical Research Conference For Minority Students, Phoenix, AZ, USA, November 4-7, 2009
- **C. Vuong** W. Yu, T. Ingalls, J. Abbas, “Mediated Therapy for Treatment of Parkinson’s Disease”, Science Foundation of Arizona Grand Challenges Conference, Phoenix, AZ, USA, April 12-13, 2010

**Art Installations**

- **C. Vuong** (in collaboration with Todd Ingalls), *Memory*, urbanSTEW:Phoenix Fringe Festival, Warehouse 1005, Phoenix, AZ, USA, April 9-10, 2010, Interactive Visual Art Installation

**Leadership Skills****Leadership and Activities**

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| ▪ Science Foundation of Arizona, Fellows Board, Co-Secretary/Treasurer (2010-Present)                | 2009-Present |
| ▪ Marquette 5 <sup>th</sup> Grade Science Volunteer Program  | 2003 - 2004  |
| ▪ Marquette Gamers Association, Treasurer (2006) and VP (2007-2008)                                  | 2006 - 2008  |
| ▪ Tae Kwon Do, US Institute of Martial Arts, 2 <sup>nd</sup> Degree Black Belt, Assistant Instructor | 1997 - 2005  |
| ▪ National Honors Society, Treasurer (2003)  | 1999 - 2003  |
| ▪ Ballet, Compos Dance Studio, Joya Dance Ensemble   | 1996 - 2003  |

**Honors/Fellowships/Awards:**

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| ▪ Science Foundation Arizona Fellowship  | 2008 - Present   |
| ▪ National Science Foundation Integrative Graduate Education and Research Traineeship Program (IGERT) on Experiential Media in Arts, Media and Engineering at Arizona State University | 2008 - Present   |
| ▪ Dean’s List, Marquette University  | 2004, 2005, 2007 |
| ▪ Valedictorian, Temescal Canyon High School   | 2003             |
| ▪ California Governor’s Scholar Award  | 2000 and 2001    |
| ▪ Presidential Award   | 1996 and 1999    |

**Community Service: (200+ Hours)**

- Demonstrated at Marquette Engineering Open House, Milwaukee, WI
- Networked computers at David A. Brown Middle School, Lake Elsinore, California
- Volunteered at the Marquette Engineering Open House, Milwaukee, WI
- 5<sup>th</sup> grade Science Volunteer Program, Marquette University, Milwaukee, WI