Wayne Manselle

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Date of Birth	13^{th} April 1983	**Email**	wayne@waynemanselle.com

Personal Profile

I am a programming enthusiast who enjoys exploring interesting problems. I have a special interest in those problems whose solutions improve scientific understanding or the human community.

Software Engineering Skills

- **Programming Languages**

  Experienced: *MATLAB, Javascript, HTML+CSS, BASH*
  Proficient: *C/C++, VBA, Java, LaTeX*
  Exposure: *PHP, Ruby, Python, Turbo Pascal, Scheme, QBasic*

- **Technical**

  Debian and Ubuntu Linux - Server Administration
  CVS, git - source version control
  Motion Capture, Magnetic Tracking, EMG, EEG, AMTI Force Plates - Data Collection Systems

Education

2005-2007 MS in Computer and Information Science - The University of Oregon, Eugene, OR

Project - Haptic Campus Map for the Visually-Impaired

2001-2005 BAs in Computer Science and Philosophy - University of Minnesota, Morris, MN

Minor: Statistics
Thesis: `Fuzzy Logic Semiotic Systems'
Thesis: `Could a Machine Ever Understand?'

Employment Experience

Jun 2007 - Jan 2015 Woollacott Motor Control and Cognition Lab, University of Oregon, Eugene, OR
Research Assistant

Technologies: MATLAB, Ruby, BASH, Mediawiki, VBA, Cortex, NetStation, E-Prime.

- Provide custom software and hardware solutions to research problems
- Provide direct technical support to lab residents
- Build and maintain lab website
- Responsible for equipment acquisition and research
- Responsible for securing and organizing information resources
- Responsible for lab administative tasks

May 2006 - Aug 2006 Paul's Bicycling Way of Life, Eugene, OR
Technology Transfer Intern

Technologies: Ubuntu, LaTeX.

- Transition company from Windows to Unix
- Port the in-house developed customer databases
- Write comprehensive technical documentation for new systems
- Instruct staff in use of new systems

May 2004 - Aug 2004 Southern California Earthquake Center, Los Angeles, CA
Software Engineering Intern

Technologies: Java, Java3D, XML, Eclipse.

- Participate in the redesign of LA3D into SCEC-VDO
- Assist in the design and implentation of system's plugin architecture
- Designed project critical memory optimization for object presentation
- Design and implement the project's ability to save and load system state and catalogs of seismic events

Aug 2003 - May 2005 Computer Science Teaching and Development Lab, University of Minnesota: Morris, Morris, MN
System Administration Intern

Technologies: Debian Linux, BASH, TWiki, Java.

- Maintain 3 servers and 40 end-user workstations
- Offer tutoring for all students in computer science program
- Develop and maintain lab's technical documentation
- Advise department on technical acquisition and equipment maintenance

Research Project Experience

Sep 2011 - Dec 2014 Study of Acquisition of Reaching Ability in Typically Developing Infants and Children with Severe CP
Jennifer Rachwani and Victor Santamaria-Gonzalez

Technologies: MATLAB, Ruby, OpenSHAPA, Excel, C, Magnetic Tracking, EMG.

- Design and implement interactive visual analysis tools for Kinematic, EMG, and EKG data
- Improve existing data analysis tools from related previous studies
- Improved and extended OpenSHAPA video coding scripts
- Improved existing magnetic tracking operating software

2011 - 2013 Biomechanical Study of Expert and Novice Approaches to Cello Bowing
Julius Verrel, Steven Pologe, Ulman Lindenberger and Marjorie Woollacott

Technologies: Cortex, Motion Analysis System, MATLAB.

- Adapted Dr. Verrel's experiment design to Dr. Woollacott's equipment
- Prep and instrument human subjects
- Assist in directly conducting data collections
- Assist collaborators in Berlin in the processing and analysis of resulting data

2009 - 2014 Undergraduate Honors Theses examining Development of Reaching Skills in Infants
Francine Porter, Staci Wood, and Tabit Xthona

Technologies: MATLAB, Ruby, Ruby, C, R.

- Design and implement prototypes of visual data analysis tools
- Design and implement automoated data analysis systems
- Improve and expand video coding scripts
- Add requested functionality to magnetic tracking system control software
- Instruct undergraduate researchers in data analysis and collection protocols

2008 - 2012 Visual-Postural Dual Task Study
Carrie E. Little

Technologies: MATLAB, E-Prime, Net Station, VBA, Motion Analysis System, Hydraulic Force Plate System, EMG, EEG.

- Port Ed Vogel's Change Detection Task to function with hardware available for the study
- Adapt the Change Detection Task to Dr. Little's specification and to incorporate EEG collection
- Build custom synchronization system to link Motion Analysis System, Hydraulic Force Plate System, and EEG
- Assist in collection of human subjects data
- Design and implement data analysis software
- Aid Dr. Little in the design of EEG analysis and processing tools

2008 - 2012 Effects of Various Exercise Modalities on P3b ERPs and other Physiological Measures
Teresa Hawkes

Technologies: MATLAB, E-Prime, Net Station, Motion Analysis System, EEG.

- Port the Smallwood Go/No-Go and Mayr Task Switch paradigms to function with hardware available for the study
- Adapt the Smallwood Go/No-Go and Mayr Task Switch paradigms to incorporate EEG collection
- Assist Dr. Hawkes in the design, acquisition and construction of her experimental apparatus
- Assist Dr. Hawkes in converting an existing space into a sound attenuated, electrically shielded EEG collection booth.
- Instruct and aid Dr. Hawkes in the design design of EEG analysis and processing tools
- Assist Dr. Hawkes in the validation of her Tai Chi skill assessment system

2007 - 2011 Posture Control in Typical Developing Infants and Subjects with CP
Sandy Saavedra

Technologies: MATLAB, Magnetic Tracking System, EMG, C.

- Assist Dr. Saavedra in the design and implementation of data analysis tools
- Assist Dr. Saavedra in the implementation of a novel approach to remove EKG artifact from EMG
- Implement requested improvements to the Magnetic Tracking System's control software
- Instruct Dr. Saavedra in elementary algorithms and software design

2007 - 2010 Examination of the Effects of Meditation Training on Attentional Networks using EEG
Aditi Joshi

Technologies: MATLAB, E-Prime, Net Station, Excel.

- Review and improve design of EEG analysis tools
- Review and improve external EEG data processing scripts
- Assist Dr. Joshi in data analysis
- Review Dr. Joshi's statistical analysis and add criteria for excluding outlier subjects

2007 - 2010 Cerebral Palsy Training Pilot Study
Sujitra Boonyong

Technologies: Motion Analysis System, MATLAB.

- Design and Implement visual tool to aid Dr. Boonyong in review subject responses
- Assist Dr. Boonyong in human subjects data collections

Jan 2005 - May 2005 Niching in Evolutionary Computation
Nic McPhee

Technologies: Java.

- Assist Dr. McPhee in the implementation of a Hamming Distance method of evaluating the exploration of genetic algorithms in multi-objective problem spaces
- Conducted evaluations of Hamming Distance method

Teaching Experience

Winter 2010 Woollacott Motor Control and Cognition Lab, University of Oregon, Eugene, OR
Seminar: Introduction to MATLAB Programming for Scientists

- Developed Syllabus and Course Materials in conjunction with Dr. Sandy Saavedra
- Co-Lectured with Dr. Sandy Saavedra on a weekly basis
- Worked one-on-one with seminar participants to improve MATLAB understanding

Fall 2006 Department of Computer and Information Science, University of Oregon, Eugene, OR
CIS 210

- Instruct students in implementation of elementary algorithms in Java
- Lead two weekly lab sections
- Held regular open office hours

W & S 2006 Department of Mathematics, University of Oregon, Eugene, OR
Business Calculus

- Instruct students in using Excel to utilize calculus in evaluating business situations
- Conduct two weekly lab sessions
- Held regular open office hours

References

Service

Dec 2013 - Present Chiptunes=WIN
Blogger

- Write a monthly column covering interesting Chiptune Releases
- Edit other author's columns
- Created and help curate a historical index of Chiptune, VGM, and Nerdcore music

Jan 2013 - May 2013 AAUP, Oregon State Chapter
Interim Secretary

- Assist in re-establishment of Oregon State Chapter of AAUP
- Take minutes at preliminary meetings

May 2010 - June 2013 United Academics of the University of Oregon
Organizing Committee Member

- Sit on decision making body for UAUO during its formation
- Chaired committee to decide bargaining issues related to Working Conditions
- Facilitate outreach meetings with non-tenure track research faculty on campus

Jan 2006- Dec 2006 Graduate Teaching Fellow Fellowship
Department Steward

- Liason between GTFF and UO's CIS graduate students
- Serve on GTFF Executive Committee
- Sit on Office Conditions Committee

Jan 2006 - Dec 2006 ACM Student Chapter, University of Oregon
President

- Facilitate Meetings
- Assist in re-establishment of chapter

Aug 2004 - May 2005 ACM Student Chapter, University of Minnesota: Morris
Secretary

- Take minutes at meetings

Oct 1999 - Aug 2000 Cosmik Inc., New London, MN
Vice President

- Assist in founding of non-profit to put computers and internet access into the hands of the less fortunate
- Negotiate with local ISPs for low-cost Internet Access
- Acquire and refurbish donated computers
- Teach end users how to use computers and the Internet

Interests

- **Martial Arts: Systema, Aikido, HEMA**
- **Fitness: Running, Hiking, Nutrition**
- **Composition and Review of Chiptune Music**
- **Creative Writing**