Matthew M. McCormick

Contact Information

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Education

University of Wisconsin-Madison, Madison, Wisconsin USA

Ph.D., Major: Biomedical Engineering, Minor: Neuroscience, May 2011

- Dissertation Topic: "Carotid Plaque Characterization with Medical Ultrasound"
- GPA: 3.70/4.0

M.S. in Biomedical Engineering, May 2008

Marquette University, Milwaukee, Wisconsin USA

B.S., Biomedical Engineering, May 2005

- Minor: Mathematics, Biology
- Marquette University Honors Program
- GPA: 3.88/4.0

St. Mary's University of Minnesota, Winona, Minnesota USA

1999-2001

Minnesota Academy of Mathematics and Science, Winona, Minnesota USA

Graduated May 2001

Cotter High School, Winona, Minnesota USA

Graduated May 2001

Work Experience

Kitware, Inc., Carrboro, NC USA

Principal Engineer **June 2011 - Present**

Lead development of the Insight Toolkit, a collaborative, open source software library for scientific imaging.

Manage and making technical contributions to scientific image analysis projects as a subject matter expert in applications spanning medical, biological, material science, and geospatial imaging.

Principal investigator and co-investigator of several research grants from the National Institutes of Health (NIH), lead of engagements with United States national laboratories, and lead of commercial projects providing advanced software for medical devices.

University of Wisconsin-Madison, Madison, WI USA

Research Assistant **June 2005 - June 2011**

Research diagnostic medical ultrasound stiffness imaging methods for non-invasive assessment of the carotid artery.

Teaching Assistant **January 2009 - May 2009**

Prepared, taught, and graded laboratories for the Diagnostic Ultrasound Physics course.

Neuromotor Control Laboratory Marquette University, Milwaukee, WI USA

Research Assistant **May 2004 - May 2005**

Developed electronic/mechanical hardware for an MRI compatible wrist robot. Process and analyze data to understand the nervous system's use of sensory information, adaptation, and control of the skeletal muscle system.

Boston Scientific Corporation Maple Grove, MN USA

Research and Design Intern **June 2003 - August 2003**

Research and development on peripheral vascular self-expanding Nitinol stents.

Educational Opportunity Program Marquette University, Milwaukee, WI USA

Tutor **August 2002 - May 2005**

Tutor college students in courses such as biology, chemistry, and calculus.

Minnesota Association for Human Genetics University of Minnesota, Minneapolis, MN USA

Research Intern **May 2000 - June 2000**

Perform genetic sequence analysis on the tyrosinase gene of individuals with albinism to probe for mutations.

Publications and Manuscripts

Please find publication and manuscripts at

ORCID iD: https://orcid.org/0000-0001-9475-3756.

Select Recent Invited Talks

Modern Insights from Microscopy Images: An Introduction to Web-based Methodologies, From Images to Knowledge with ImageJ & Friends Workshop, Janelia Research, 2020

Scientific Image Analysis and Visualization with Dask and ITK, Workshop, The Dask Developer Workshop, 2020

itkwidgets: Interactive, 3D Visualization for The Age of Big Data, Renaissance Computing Institute at the University of North Carolina (RENCI), 2019

itkwidgets, pyimagej, and clEsperanto: Interactive, 3D Visualization for The Age of Big Data, Center for Systems Biology Dresden (CSBD), 2019

Interactive Analysis and Visualization of Large Image in the Web Browser, ImageXD: Imaging Across Domains, Berkeley Institute for Data Science (BIDS), 2018

Peer Review Duty

Peer review provided for the following journals:

IEEE Transactions on Medical Imaging - IEEE TMI Distinguished Reviewer Award, 2021
Journal of the Acoustical Society of America (JASA)
The Insight Journal
Medical Image Computing and Computer Assisted Intervention (MICCAI)
Ultrasound in Medicine and Biology
Ultrasonic Imaging

Computer Skills

- Languages: JavaScript, C++, Python, Matlab, and Bash.
- Operating Systems: Linux, macOS, Windows, Android.

- Prolific collaborator on open source software across the scientific computing community.
- Advocate and contributor to open standards, such as the Neurodata Without Borders (NWB:2) for neurophysiology data and Next Generation File Format (NGFF) for microscopy.

Awards and Activities

President, Insight Software Consortium. The Insight Software Consortium (ISC) promotes open source, scientific image analysis software in teaching, research, and commercial applications, and maintains webpages and user and developer communities. 2017 - present.

SciPy: Scientific Computing With Python International Conference. Program Committee Co-chair, 2012 and 2013. Birds of a Feather Committee Chair, 2014. Vision, Visualization, and Imaging Symposium Chair, 2014.

UW-Madison The Hacker Within. A peer-teaching group whose purpose is to provide non-computer scientists with the practical skills required to perform research.
- Organizing member of the 2011 Software Carpentry Bootcamp.
- Arranged university-sponsored guest lecture of Dr. John D. Hunter from Chicago.
- Organizing member of the 2010 Python Bootcamp.
- Presentations on CMake and creating custom pretty-printers in GDB.
- Representation at PyCon 2010.

2009 Department of Medical Physics Outstanding Teacher Award.
- Nomination by students.

Clinical Neuroengineering Training Program, University of Wisconsin-Madison. 2008-2009.

Marquette University Honors Program. 2001 - 2005.

Alpha Eta Mu Beta, National Biomedical Engineering Honor Society.
- Local Chapter Secretary, 2003 - 2004
- President, 2004 - 2005

Pi Mu Epsilon- National Mathematics Honor Society. 2004 - 2005.

Marquette University Concert, Jazz, Doc C's Combo, Orchestral, and Pep Bands. 2001 - 2005.

Biomedical Engineering Society, BMES. 2002 - 2005.

Marquette 2002 Engineering Outstanding Sophomore.
- Graduated with High Scholastic Honors

Rehabilitation Engineering Research Centers on Accessible Medical Instrumentation. 2004 - 2005.

- First Place in category, Second Place overall for project on Accessible Syringe Dosing