

WILL MCFADDEN

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EDUCATION

University of Chicago exp. May 2016
Ph.D. in Biophysical Science GPA: 3.64/4
Thesis: *Computational models of filament recycling in active networks*

University of Illinois at Urbana-Champaign Dec 2009
B.S. in Engineering Physics with minors in Mathematics and Computer Science GPA: 3.67/4

TECHNICAL SKILLS

Languages & Markup	C, Java, MATLAB, Python, Javascript, CSS, HTML, LaTeX, Markdown
Protocols, Frameworks, APIs	MPI, GAE, Hadoop, Arduino, Numpy, Scipy, pandas, D3, JSON
Software Tools	Git, Photoshop, Illustrator, ImageJ, Eclipse, Spyder, Jupyter

EXPERIENCE

University of Chicago, Research Computing Center Apr 2015 - Present
Research Assistant Chicago, IL

- Analyzed supercomputer power usage to optimize datacenter energy saving strategies
- Launched "real-world" week-long benchmarking routines to measure energy vs runtime trade-offs

University of Chicago, Munro Research Group Aug 2010 - Present
Ph.D. Research Assistant Chicago, IL

- Devised statistical methods for novel single-molecule measurement techniques
- Collaborated with experimentalists to model active biopolymer materials

Artifice Tech Education Dec 2013 - Present
Board Secretary and CTO Chicago, IL

- Launched after-school electronics courses and developed online learning materials
- Managed volunteer instructors and aided recruiting efforts to quadruple our volunteer staff
- Led development team in administrating internal operations and expanding public relations efforts

Bionic Trader Systems Sep 2011 - Dec 2012
Software QA Consultant Chicago, IL

- Advised CEO on user experience and stress testing of financial trading software
- Created reference documentation and user tutorials for software deliverable

Institute for Genomic Biology, Robinson Research Group Oct 2009 - May 2010
Computational Research Assistant Urbana, IL

- Built automated video data collection system and data analysis pipeline

National Center for Supercomputing Applications, ISDA Research Group Jun 2008 - Jun 2009
Research Programmer Urbana, IL

- Developed machine vision software for large volume electronic document appraisal

AWARDS AND HONORS

University of Chicago Art+Science Collaboration Grant 2011,2015

NIH Federal Training Grant 2010-2012

University of Illinois, Student Employee of the Year, Honorable Mention 2010

University of Illinois, James Scholars 2007-2010

National Merit Scholarship 2006-2010

PUBLICATIONS

- Francois B Robin, William M McFadden, Baixue Yao, and Edwin M Munro. Single-molecule analysis of cell surface dynamics in caenorhabditis elegans embryos. *Nat Meth*, 11(6):677–682, June 2014.
- J. Alberts W. McFadden and E. Munro. Physical models of cortical flows during polarity maintenance in c. elegans embryos. In *ASCB Annual Meeting*, 2012.
- S-C Lee William McFadden, Rob Kooper and Peter Bajcsy. *Application of Machine Learning*, chapter Comprehensive and Scalable Appraisals of Contemporary Documents, pages 87–108. InTech, 2010.
- Jason Kastner Michal Ondrejcek Kenton McHenry Rob Kooper, William McFadden and Peter Bajcsy. Mining large size complex pdf documents for industrial knowledge management and preservation. In *2009 NCSA Private Sector Program (PSP) Annual Meeting*, 2009.
- W. McFadden S-C. Lee and P. Bajcsy. Text, image and vector graphics based appraisal of contemporary documents. In *7th International Conference on Machine Learning and Applications*, 2008.
- R. Kooper M. Ondrejcek A. Yahja W. McFadden, K. McHenry and P. Bajcsy. Advanced information systems for archival appraisals of contemporary documents. In *4th IEEE International Conference on e-Science and Microsoft eScience Workshop*, 2008.