

DENNIS V. PEREPELITSA

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Research Interests: Experimental and theoretical nuclear and high-energy physics.

Education

Massachusetts Institute of Technology Cambridge, MA
Bachelor of Science in Physics, Bachelor of Science in Mathematics with Computer Science
GPA: 4.5/5.0, Graduation: 6 June 2008
Thesis: $(n, n'\gamma)$ Reactions in $^{63,65}\text{Cu}$ and Background in $0\nu\beta\beta$ Experiments (Advisor: Joseph Formaggio)
Columbia University New York, NY
Ph.D. in Physics, Expected Graduation: 2013

Work and Research Experience

Lab Researcher June 2008 - present
MIT Laboratory for Nuclear Science Cambridge, MA
◦ *Performed simulation and modeling work for the KATRIN experiment.*

Undergraduate Instructor August 2007 - May 2008
MIT Experimental Study Group Cambridge, MA
◦ *Gave daily lecture and developed exams for a section of freshmen.*
◦ *Taught Accelerated Calculus (18.01A/02A) and Differential Equations (18.03).*

Student Researcher May 2007 - present
Los Alamos National Laboratory Los Alamos, NM
◦ *Oversaw nuclear science experiment at the LANSCE particle accelerator.*
◦ *Performed high-energy neutron-interaction cross-section measurements.*

Undergraduate Researcher March 2006 - January 2007
MIT Picower Center for Learning and Memory Cambridge, MA
◦ *Designed and implemented a hidden Markov model library including estimation algorithms and advanced models from recent literature; package release pending.*
◦ *Analyzed neural data patterns in rat hippocampal cells during sleep and awake states.*

Software Engineer September 2005 - August 2006
Dimagi, Inc. Cambridge, MA
◦ *Developed encrypted file-sharing software and oversaw the project's remote server installation process.*
◦ *Redesigned, automated and administrated company's internal build process and version control system.*

Undergraduate Researcher November 2004 - August 2005
Responsive Environments Group, MIT Media Lab Cambridge, MA
◦ *Built an original 3D interactive and explorable world using Python bindings for the OGRE rendering engine and third party modeling software.*
◦ *Designed visualizations of mesh relaxation and other node localization algorithms.*

Technical Skills

Python, Ruby, Scheme, Java, C++, C# .NET, MATLAB, \LaTeX , Linux, Windows, SciPy/NumPy, ROOT, Apache, Ant, LabView, SVN/CVS, HTML, MySQL, system administration, instruction set architecture

Awards and Honors

Todd Anderson Teaching Award May 2008
Speaker, April APS Meeting April 2008
Presenter, Poster Session, Fall Meeting of the APS New England Section October 2007
Mathematical Contest in Modeling, Meritorious Winner March 2007
Final Project Design Award in Software Engineering Lab December 2005
Siemens-Westinghouse Competition in Math and Science, Semi-Finalist November 2003

Miscellaneous

Undergraduate Senator, MIT Undergraduate Association
Executive Board Member, MIT Association of Student Activities
Coordinator for Information Technology, MIT Undergraduate Association
Member: Association for Symbolic Logic, American Physical Society, Mensa
Experienced actor, Trained peer counselor

References available upon request.