Marissa Ramirez Zweiger

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EDUCATION

UC BERKELEY

BA Mathematics
May 2015 | Berkeley, CA

COURSEWORK

GRADUATE

Numerical Solutions of Partial Differential Equations

UNDERGRADUATE

Numerical Analysis
Mathematical Logic
Complex Analysis
Real Analysis
Concepts of Probability
Abstract Algebra

SKILLS

TECHNICAL

Java • Matlab • Python • LaTeX
C++ • UNIX • GitHub • vim

LINGUISTIC

English (Native) • Spanish (Proficient)
Khmer (Conversational)

ACTIVITIES

Board Member | Jun 2014 -
Oakland Catholic Worker

Volunteer Tutor | Oct 2014 - Jul 2015
San Quentin State Prison

Outreach Volunteer | Aug 2011 - May 2015
UCB RAZA Recruitment & Retention Center

ESL & Math Teacher | 2010 - 2011
The Ponheary Ly Foundation, Cambodia

Camp Counselor | 2009 - 2015
Mid Hudson Valley Camps

LINKS

Github:// **mzweig**

RESEARCH EXPERIENCE

OAK RIDGE NATIONAL LABORATORY

Oak Ridge, TN | Sep. 2015 - present
Post-Bachelor's Research Associate, Radiation Transport Group

- Perform a detailed convergence analysis using the method of manufactured solutions on the radiation transport models employed in the RNSD code Exnihilo, including Sn, SPn, and MOC
- Build a library of problems involving reactor analysis, radiation shielding, criticality safety, and/or dosimetry to be used to analyze new methods

APPLIED MATHEMATICS RESEARCH GROUP

UC Berkeley | May 2015 – August 2015
Undergraduate Researcher, under Dr. Per-Olof Persson

- Developed a line-based discontinuous Galerkin solver for the Euler Equations.
- Prepared a paper ready for publication in the McNair Scholars Journal.
- Funded through the McNair Scholars Program.

NEUTRONICS RESEARCH GROUP

UC Berkeley | Nov 2014 - August 2015
Undergraduate Researcher, under Dr. Rachel Slaybaugh

- Contribute to PyNE, the open source, Python library for nuclear engineers
- Implement in PyNE a Chebyshev Rational Approximation Method solver for burnup calculations
- Mentor undergraduate student in PyNE development

CONFERENCES & TALKS

Shock Capturing by the Line-Based Discontinuous Galerkin Method [Talk]
McNair Scholars Symposium, University of California Berkeley, July 31st 2015

Software Development to Enable Next-Generation Computational Neutronics Capability [Poster]
University and Industry Technical Interchange Review Meeting, University of Michigan, June 3rd 2015

PyNE: Python for Nuclear Engineers [Workshop]
American Nuclear Society Meeting on Mathematics & Computation, Nashville, TN, April 23rd 2015

AWARDS & COMPETITIONS

UCB McNair Scholar	The McNair Scholars Program	2014-2015
Top Third	William Lowell Putnam Mathematical Competition	Dec 2014
Successful Participant	The Mathematical Contest in Modeling	Feb 2014