Lori A. Rebenitsch

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Developer Profile

Analytical and results-driven professional with eight years of experience in creating and implementing data acquisition systems for different experimental systems. Skilled in creating and executing measurements to determine the maximum use of newly commissioned instruments and providing custom software for these instruments. Flexible and technical with a keen eye for details; skilled at synthesizing and editing information to achieve overall objectives.

- Data Analysis & Interpretation
- Experimental Analysis & Testing

- Scientific Research
- System Development
- Reporting & Documentation
- Software, Hardware and Firmware development

Career Experience

Founder, The Study, LLC, Rapid City, SD

4/2021 to Present

Cross-team Collaboration

• Issues & Dispute Resolution

Relationship Building

Founded The Study, LLC, as a scientific consulting company offering expertise in physics and computer science. These services developed from working as a consultant to local, small businesses and start-ups.

Summary:

- Consultant to Excellence in Computer Programming (nonprofit) with past emphasis on reviewing and developing computer science teaching tools for K-12 digital classrooms and current emphasis on scientific writing services and planning for future development projects.
- Consultant to Energy Engineering, Inc. as a physicist project reviewer.
- Grant and scientific writer to local clients.

Research Assistant, University of Winnipeg, Winnipeg, MB, Canada 7/2013 to 12/2018 Designed, created, and implemented a system through research, analysis, and experimentation to test the effective cooling of neutron flux in the cryostat and the surrounding space, that led to discover a drift in the stage before generating the neutron flux and improve operation methods. Leveraged astute analytical capabilities during enhancing research focus from final neutron counting to the initial cooling of neutron flux after material availability changed to meet challenging design tasks.

- Built the prototype detector and corresponding data acquisition system of the cooled neutrons at final stage of measurement that characterized measurement resulted in a journal article in European Journal of Physics.
- Utilized and implemented a combination of new technologies available to gather, analyze, and collate desired data at a data read-in rate over 1MHz.
- Awarded the Japan Society for the Promotion of Science Postdoctoral fellowship as a graduate student.
- Designed and deployed measurements to determine the maximum use of newly commissioned instruments.

Research Assistant, Indiana University, Bloomington, IN

5/2011 to 12/2012 Structured, maintained, and streamlined particle identification system for a 3D neutrino and neutron detection system by utilizing modeling and analytical techniques.

- Authored the documentation of particle identification system in clear and concise format with relevant diagrams.
- Piloted the development and execution of particle identification analysis method for experimental detector.

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Education

Doctor of Philosophy, Physics, University of Manitoba, 2018 Master of Science, Physics, Indiana University 2012 Bachelor of Science, Physics, South Dakota School of Mines 2010

Affiliations

Institute of Electrical and Electronics Engineers – Eta Kappa Nu Member | American Society of Physics

Languages

- C/C++
- C#

- Python
- SLURM
- Java
- Assembly (rusty)