Education and Outreach

Workshops, training materials

Deep learning workshop, October 30, 2017

IBM PowerAI Training Workshop, February 28, 2018

Undergraduate students involvement

- Ke Xu
  - ECE major
  - Fall 2017-Spring 2018
  - SPIN and Senior Research Thesis (ECE 496/499)
    - application of deep learning for image recognition
    - frameworks scalability
    - frameworks benchmarking
- Simeng Liu
  - CS major
  - Spring 2018
  - SPIN
    - frameworks benchmarking
- Janish Yerra
  - ECE major
  - Fall 2017-Spring 2018
  - Individual study (ECE 397)
    - FPGAs
- Yan Zhan
  - ECE major
  - Spring 2018
  - SPIN
    - system administration and system development for DL
- Yike Li
  - ECE major
  - Fall 2017
  - Individual study
    - FPGAs

"Development of this instrument presents a unique opportunity to bring a broad community of researchers and students to be engaged with the development team to learn from instrument development and its applications. The appeal of AI, which at this stage heavily relies on DL, will make this instrument to be a very attractive technology for students. The instrument will be available to a select set of courses offered on campus across many departments using DL. The documentation and training materials developed as part of this project will be made available to these courses as well as to a broader community of potential users. We will work with the course instructors to ensure effective use of these materials and the instrument itself in the classroom. The problems identified in the course of developing software for this instrument will be made available as software challenges to be used in classes such as ECE 408: Applied Parallel Programming, which teaches students to program GPUs. Students will be able to work on these challenges on the instrument itself.

NCSA engages undergraduate students in staff and faculty-lead research through the Students Pushing Innovation program and a newly funded NSF REU summer program, "Incubating a New Community of Leaders Using Software, Inclusion, Innovation, Interdisciplinary and Open Science" focused on open-source software development. Through these activities, we will have several undergraduate students working with the development team on application development. The REU program in particular will help us to attract students from underrepresented minorities and women in computing communities, as this is one of its major goals. Co-PIs Gropp and Kindratenko are Senior Personnel on this REU grant. As mentioned in section 3d, we will involve graduate students in the instrument development and will reach out to a minority serving community college.

Our outreach efforts will also focus on bringing new users to the instrument through arranging colloquia that will bring together researchers on campus to share their experiences and research done with the instrument and to showcase its capabilities to the broader community of potential users. We will setup a mailing list available for subscription by anybody interested in DL through which we will distribute instrument development updates and use cases. We will continue to organize semi-annual workshops for the DL community on campus. The awareness of the need for developing such instrument originated from the survey results from previous workshops that have been organized by co-PI Campbell hosted by College of Engineering. The blueprints of the developed instrument and the evaluation and performance results, along with the software developed in the course of this work, will be open-sourced and shared with the broad research community via publications, presentations, technical reports, and software repositories. This project will inspire new generations of students and researchers to contribute to the field of DL and its applications."