Yuquan Shan

Curriculum vitae

Education

2014 – **Pennsylvania State University**
Ph.D., Computer Science
University Park, PA
GPA: 3.97/4.00

2009 – 2013 **Jinan University**
B.Eng., Electrical Eng.
Guangzhou, China
GPA: 86.6/100

Experience

Jun 2014 – Present
Penn State University, University Park, PA
Research Assistant

Studied the scheduling algorithm of Mesos and compared it with other algorithms in terms of performance and fairness; added a new allocator in Mesos implementing our proposed algorithm. Studied the scheduling mechanism of Spark. Investigated the effect of the uneven workload assignment to workers with different qualities in the cluster. Worked on shuffle-and-quarantine strategy to handle the DDoS attack in the cloud.

Sep 2017 – Dec 2017
Facebook, Menlo Park, CA
Software Engineer Intern

Worked on Spark shuffle I/O optimization. Added new features on Spark mapper, reducer and external shuffle service which can significantly reduce read/write traffic and task durations. Created a stress test suite that has been integrated in FB Spark's nightly build.

May 2017 – Aug 2017
IBM Research, San Jose, CA
Research Intern

Bounded point-in-time recovery in NoSQL database: Developed APIs for point-in-time recovery in RocksDB; derived and trained a model which can accurately predict the database recovery time; built a database system module which achieves persistency using both database backup and write-ahead-log, and dynamically takes back-up in order to fulfill the bound of recovery time.

Jan 2016 – May 2016
Penn State University, University Park, PA
Teaching Assistant

Worked as a teaching assistant for the course *Operating Systems Design & Construction. Wrote and modified C codes for course projects. Wrote the script codes for automatic grading. Held office hours to provide help for homeworks, projects and other problems.*

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Selected Coursework

Operating Systems Design, Machine Learning, Computer Networks, Performance Analysis, Algorithm Analysis, Numerical Optimization.

Publications

Y. Shan, J. Raghuram, G. Kesidis, et al. Generation Bidding Game with Potential False Attestation of Flexible Demand. EURASIP Journal on Advances in Signal Processing. Issue 1, Vol. 2015.

G. Kesidis, B. Urgaonkar, Y. Shan. Network Calculus for Parallel Processing. ACM SIGMETRICS Performance Evaluation Review. 09/2014, 43(2).

Y. Shan, G. Kesidis. Optimal Power Flow with Random Wind Resources. HICSS-49.

Y. Shan, C. Lo Prete, G. Kesidis, D. J. Miller. A Simulation Framework for Uneconomic Virtual Bidding in Day-ahead Electricity Markets. NetEcon'16.

Awards

2013 Excellent Undergraduate Graduation Thesis

2013 1st Class Excellent Senior Student Scholarship

2010 2nd Class Excellent Student Scholarship

Communication skills

English Fluent

Chinese Mothertongue

Software skills

Languages Java, Python, Scala, C/C++, MATLAB, LaTeX, HTML, Go

OS Windows, Linux, Mac OS