Jinlai Xu

Curriculum Vitae

Infomation

Name Jinlai Xu

Email xujinlai@gmail.com

Education

2015–present **PhD in Information Science (expected)**, *University of Pittsburgh*.

2012–2015 **M.E in Software Engineering**, *China University of Geosciences (211)*.
GPA – 89.9/100, *Major GPA – 91.9/100*, Thesis Topic: MapReduce Performance Acceleration and Analytics with Intermediate Results Reusing.

2008–2012 **B.E. in Software Engineering**, *China University of Geosciences (211)*.
GPA – 88.6/100, *Major GPA – 92.9/100*, ranked 1st/96, Thesis Topic: the Design and Implementation of the Quadrotor Autopilot and 3-D Point Cloud Generation and Processing System.

Interests

Research Fog/Edge Computing, Cloud Computing, Machine Learning, Computer Vision, Robotics.

Sports Soccer, Billiards

Publications

Jinlai Xu and Balaji Palanisamy. Cost-aware resource management for federated clouds using resource sharing contracts. In Cloud Computing (CLOUD), 2017 IEEE 10th International Conference on, pages 238–245. IEEE, 2017.

Jinlai Xu and Balaji Palanisamy. Optimized contract-based model for resource allocation in federated geo-distributed clouds. IEEE Transactions on Services Computing, (1):1–1, 2018.

Jinlai Xu, Balaji Palanisamy, Heiko Ludwig, and Qingyang Wang. Zenith: Utility-aware resource allocation for edge computing. In Edge Computing (EDGE), 2017 IEEE International Conference on, pages 47–54. IEEE, 2017.

Jinlai Xu, Balaji Palanisamy, Yuzhe Tang, and SD Madhu Kumar. Pads: Privacy-preserving auction design for allocating dynamically priced cloud resources. In Collaboration and Internet Computing (CIC), 2017 IEEE 3rd International Conference on, pages 87–96. IEEE, 2017.

Hong Yao, Jinlai Xu, Zhongwen Luo, and Deze Zeng. Memomr: Accelerate mapreduce via reuse of intermediate results. Concurrency and Computation: Practice and Experience, 28(14):3814–3829, 2016.

Teaching Experience

2018 Fall **Instructor**, University of Pittsburgh
- Information Security and Privacy (Online Course)

2017–Present **Teaching Assistant**, University of Pittsburgh
- Algorithm Design (2018 Fall)
- Instructor: Prof. Hassan Karimi
- Cloud Computing (2017 Spring & 2018 Spring & 2019 Spring)
- Information Security and Privacy (2017 Fall)
- Instructor: Prof. Balaji Palanisamy

2013 Fall **Teaching Assistant**, China University of Geosciences
- Advanced Programming Language (JAVA)
- Instructor: Prof. Shengwen Li

Research Experience

2015–Present **Teaching Assistant**, The Laboratory for Education and Research on Security Assured Information Systems (LERSAIS), University of Pittsburgh, Pittsburgh.
- Reviewed related literatures (mainly in Cloud Computing and Edge Computing)
- Focus on resource sharing problems in Cloud and Edge Computing
- Publish four papers on these topics:
  - Cost-aware resource management for federated clouds using resource sharing contracts. In 10th IEEE International Conference on Cloud Computing (IEEE Cloud 2017), 2017.
  - Optimized contract-based model for resource allocation in federated geo-distributed clouds. IEEE Transactions on Services Computing, 2018.
  - Zenith: Utility-aware re- source allocation for edge computing. In 1st IEEE International Conference on Edge Computing (IEEE Edge 2017), 2017.
  - PADS: Privacy-preserving auction design for allocating dynamically priced cloud resources. In IEEE 3rd International Conference on Collaboration and Internet Computing (CIC), 2017.

2012–2015 **Research Assistant**, Robotics and Artificial Intelligence Laboratory, China University of Geosciences, Wuhan.
- Reviewed related literatures (mainly in Cloud Computing)
- Constructed the cloud computing platform for our faculty:
  - Designed the virtualization solution for the cluster. (based on Xen)
  - Deployed Hadoop and related application(Hive, Spark, Solr ...) on the cluster.
  - Supported the experiment of Deep Learning in our lab.
- Studied MapReduce programming model and did research on it:
  - Read the source code of MapReduce in Hadoop project.
  - Proposed a new method to reuse the intermediate results automatically and data-awarenessly and implemented the prototype system by modifying the core code of MapReduce.
  - Evaluated the performance on the cluster and got the result that the system could improve the performance up to 24.6% compared with the previous optimization work.
  - the paper is contributed to CloudCom-Asia 2015 and have been accepted. (Title: ***MEMoMR: Accelerate MapReduce via Reuse of Intermediate Results***)
- Managed the cluster in our faculty:
  - Allocated the virtual machines and network resource.
  - Supported a mirror site on the cluster (http://mirrors.cug.edu.cn).

2009–2012 **Undergraduate Research Assistant**, Robotics and Artificial Intelligence Laboratory, China University of Geosciences, Wuhan.

- Reviewed related literatures (mainly in Computer Vision and Robotics).
- Participated in The 9th Robot Soccer Tournament of China and The Tryouts for FIRA in Changchun in freshmen year.
- Studied the architecture and implementation of ROS(The Robot Operating System) and preliminarily deployed it on the robots control panel (Version: RB100 by RoBoard).
- Successfully applied for The National College Students Innovation Experiment Program:
  - **Topic: Small Model Aircraft Autopilot System and Aerial Photo Research**
  - Chose Quadrotor(an aircraft with four rotors) as the carrier platform of the research.
  - Studied the theory of balancing the Quadrotor with MikroKopter(one of the most famous open source UAV projects).
  - Studied and implemented the point clouds registration algorithm ICP and RANSAC on ROS.
  - Used ASUS Xtion PRO (a device like Kinect) to get the point cloud data and evaluated the algorithm.
  - Wrote graduation thesis based on this topic.(Title: the Design and Implementation of the Quadrotor Autopilot and 3-D Point Cloud Generation and Processing System)

Honors & Awards

2017 **ICDCS 2017 student travel grant**, ICDCS 2017, Atlanta, GA, USA

2013–2014 **Outstanding Student Award**, China University of Geosciences, China

2010–2011 **Fellows Scholarship**, China University of Geosciences, China

2009–2010 **National Scholarship**, Ministry of Education, China

2009 **The Second Place of AndroSot(Full-autonomous 3vs3 Humanoid Robot Soccer)**, The 9th Robot Soccer Tournament of China and The Tryouts for FIRA, Changchun, China

2009 **The First Prize of AndroSot(Semi-autonomous 3vs3 Humanoid Robot Soccer)**, The 9th Robot Soccer Tournament of China and The Tryouts for FIRA, Changchun, China

Languages

Chinese **Native proficiency**

English **Professional working proficiency** *Conversationally fluent*

Skills

Basic JAVA, C++

Intermediate PYTHON, LaTeX, Linux ,Emacs, GitHub, Hadoop, Storm

Advanced Cloud Computing Infrastructure, Virtualization, Computer Vision

Projects

Oct.2013–Jan.2014 **Leader**, The CRM system customization for A.X.W company, A.X.W tech, Wuhan.

- Based on Vtiger open source CRM system.
- Customized the customer information module to satisfy the requirement of A.X.W company.
- Combined the customer information module with the staff information module for the company's requirement.
- Designed and implemented the data transfer program from the old system(based on office software) to the new system(based on web)

Jan.2012–Oct.2013 **Programmer**, Geological exploration projects in Henan province, Land and Resources in Henan province Scientific Research Institute, Zhengzhou.
- Participated in the Web Service Programming and Web site construction.

Jun.2012–Dec.2012 **Leader**, The Humanoid Robot Simulation and Assembly Videos, Robotics and Artificial Intelligence Laboratory, Wuhan.
- The project based on OGRE to realize the robot motion simulation is mainly used in action debug of the robots. We made the model of the humanoid robot by using the modeling tool SolidWorks. And for teaching requirement, the assembly video is also made in the SolidWorks.

Oct.2010–Jun.2012 **Leader**, National College Students Innovation Experiment Program, **Topic: Small Model Aircraft Autopilot System and Aerial Photo Research**, Wuhan.
- see Page.3

Professional Services

Journal Review
- IEEE Transactions on Services Computing (TSC)
- International Journal of Cooperative Information Systems (IJCIS)
- Information Systems Frontiers (ISFI) : IRI - Special Issue on Foundations of Reuse

Conference Review
- International Workshop on Internet-scale Clouds and Big Data (ISCBD 2016)
- IEEE International Conference on Communications (ICC 2015)

Conference Volunteer
- IEEE 18th International Conference on Information Reuse and Integration (IRI 2017), San Diego, CA, USA. Aug 4 - 6, 2017
- The 37th International Conference on Distributed Computing Systems (ICDCS 2017), Atlanta, GA, USA. June 5 - 8, 2017
- IEEE 17th International Conference on Information Reuse and Integration (IRI 2016), Pittsburgh, PA, USA. Jul 28 - 30,2016
- IEEE 2ed International Conference on Collaboration and Internet Computing (CIC 2016), Pittsburgh, PA, USA. Nov 1 - 3,2016

Conference Webmaster
- IEEE 19th International Conference on Information Reuse and Integration (IEEE IRI 2018)
- IEEE 18th International Conference on Information Reuse and Integration (IEEE IRI 2017)
- International Workshop on Internet-scale Clouds and Big Data (ISCBD 2018)
- International Workshop on Internet-scale Clouds and Big Data (ISCBD 2017)
- International Workshop on Internet-scale Clouds and Big Data (ISCBD 2016)