

Amol Jaikar

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Education:

2017: **Ph.D. (Computer Science),**

Korea University of Science and Technology (UST), Daejeon, South Korea

Research Interest: Cloud Computing, Machine Learning, System Administration, Data Science

Dissertation Title: *vcluster* based Energy-Efficient Resource Management Framework for Scientific Federated Cloud

2009: **M.Tech. (Computer Science),**

Government College of Engineering (COEP), Pune, India

Dissertation Title: Offloading SHA algorithm on GPU

2006: **B.E. (Computer Science),**

University of Pune (UoP), Pune, India

Dissertation Title: Mobile Antivirus

Career graph:

Research Fellow, [KISTI](#), Daejeon, South Korea, Mar 2013 – Present (4 Years)

- Development of distributed framework to efficiently manage the federated cloud
- Development of new indexing technique to search fuzzy keyword
- Reduced index size around 40% of the K/n-gram method
- Used machine learning algorithm to improve the performance
- Achieved 20 to 46% reduction of energy consumption of data center
- Install and maintain private cloud (OpenStack & OpenNebula)
- Install and maintain HTCondor-OSG cluster for scientific experiment

Visiting Researcher, [Fermilab](#), Batavia, Illinois, United States,

Aug 2016 – Sep 2016 (2 Months)

- Design the cloud framework
- Installation of OpenStack framework
- Federated identity management

Visiting Researcher, [KISTI](#), Daejeon, South Korea, Jan 2013 – Feb 2013 (1 Month)

- Designing the federated cloud

Assistant Professor, [MITCOE](#), Pune, India, Sep 2011 – Jan 2013 (1.4 Years)

- Research coordinator of the computer department
- Project Guide: for bachelor and master students
- Improved the result by 18%

Researcher, [ETRI](#), Daejeon, South Korea, Aug 2009 – Jul 2011 (2 Years)

- Algorithm design for computer graphics application, Object detection and Depth calculation
- Performance improvement of existing algorithms, Xbox application

Professional Activities: (Guest Reviewer)

1. Reviewer of Journal of Supercomputing (6/SCI/0.858)
2. Reviewer of Transaction on Cloud Computing (3)
3. Reviewer of IEEE International Congress on Big Data (3/2015, 2016)
4. Reviewer of Information Science (1/SCI/4.038)
5. Reviewer of Transaction on Fuzzy Systems (1/SCI/8.746)

Technical knowledge:

Programming Language	: C, C++, Java, Python, R programming, Octave : HTML, CSS, JavaScript, CUDA
Cloud Frameworks	: OpenStack, OpenNebula
Cloud Containers	: Docker, OpenVZ
Public Clouds	: Amazon (AWS), Google Cloud, Rackspace
Batch Processing software	: HTCondor
Grid Middleware	: OSG (Open Science Grid)
Database	: MySQL, XRootD
Configuration Tool	: Puppet

Certification:

AWS: Certified Developer.

Machine Learning: Stanford University, Coursera.

R Programming: Johns Hopkins University, Coursera.

Academic Awards and Scholarship:

1. Overseas Training Program Scholarship 2016 (2 Months)
2. 2nd price of University Website Error Finding Contest
3. Korean Government Full Scholarship (2013~)
4. Indian Government Full Scholarship (2007-2009)

Publications: [Google Scholar](#)

Patents:

1. NOVEL: A Technique to Search Fuzzy Keyword – 제 10-1694179 호 (Korean Patent)

International Journal:

1. **Amol Jaikar**, Seo-Young Noh. [Cloud Computing: Read before use](#). Special Issue on “Cloud Computing” of **Transactions on Large-Scale Data and Knowledge Centered Systems (TLDKS)**.
2. **Amol Jaikar**, Gyeong-Ryoon Kim, Seo-Young Noh, [Hashed Page Table Support for the Virtualization](#), International Journal of Software Engineering and Its Applications, Vol. 10, No. 3, March 2016. (**SCOPUS**)
3. Dada Huang, **Amol Jaikar**, Gyeong-Ryoon Kim, Young-Kuk Kim, Seo-Young Noh, [A Self Synchronization Mechanism in a Federated Cloud](#), International Journal of Software Engineering and Its Applications, Vol. 10, No. 1, Jan. 2016. (**SCOPUS**)

4. Gyeong-Ryoon Kim, **Amol Jaikar**, Huang dada, Seo-Young Noh, [*A Study of HTC Job Performance over KVM based Virtual Cluster Computing Environment*](#), International Journal of Software Engineering and Its Applications, Vol. 9, No. 11, November 2015. (SCOPUS)
5. **Amol Jaikar**, Huang Dada, Gyeong-Ryoon Kim, Seo-Young Noh. [*Power Efficient Virtual Machine Migration in a Scientific Federated Cloud*](#). Cluster Computing, 29 January 2015. (SCIE-2014-1.510)
6. **Amol Jaikar**, Seo-Young Noh. [*Cost and Performance Effective Data Center Selection System for Scientific Federated Cloud*](#). Peer-to-Peer Networking and Application, 20 May 2014. (SCIE-2014-0.632)
7. **Amol Jaikar**, Huang Dada, Gyeong-Ryoon Kim, Seo-Young Noh. [*A Hardware-based Algorithm for Virtual Machine Provisioning in a Private Cloud*](#), Journal of Central South University of Technology, 15 November 2014. (SCIE-2014-0.520)
8. **Amol Jaikar**, Gyeong-Ryoon Kim, Seo-Young Noh. [*Matrix-based Data Center Selection Algorithm for a Federated Cloud*](#). International Journal of Multimedia and Ubiquitous Engineering, 2014. (SCOPUS)
9. Dada Huang, **Amol Jaikar**, Gyeong-Ryoon Kim, Seo-Young Noh, [*A Quick Crash-Recovery Strategy for Scientific Federated Cloud System*](#), International Journal of Applied Engineering Research, Vol. 9 No. 22, 2014. (SCOPUS)
10. **Amol Jaikar**, Gyeong-Ryoon Kim, Seo-Young Noh. [*Performance Trade-off between Xen and KVM*](#). Journal of Next Generation Information Technology, Vol. 4, Issue 8, Oct 2013. (SCOPUS)
11. **Amol Jaikar**, Nam Seung Woo and Dr. Jae-Ho Lee. [*Offloading Secure Hash Algorithm \(SHA\) on GPU*](#). CiiT International Journal of Biometrics and Bioinformatics, Vol. 2, No. 10, Oct. 2010.
12. **Amol Jaikar**. [*Implementation of Steganography Using BMP file*](#). CiiT International Journal of Digital Image Processing, Oct 2009.
13. **Amol Jaikar**, V. H. Josh. [*Computational Performance Improvement of Steganography using GPU*](#). CiiT International Journal of Digital Image Processing, Jun 2009.

International Conference:

14. Sang Un Ahn, Sangwook Bae, **Amol Jaikar**, Llyeon Yeo, Byungyun Kong, Jin Kim, [*Experience on HTCondor batch system for HEP and other research fields at KISTI-GSDC, CHEP 2016*](#).
15. **Amol Jaikar**, Sangwook Bae, Syed Asif Raza Shah, Seo-Young Noh, [*Monitoring of Virtual Machine's Launching time in OpenStack and OpenNebula, ICCT 2016*](#)
16. **Amol Jaikar**, Sangwook Bae, Syed Asif Raza Shah, Seo-Young Noh, [*Monitoring of Joining Time of Virtual Machine to HTCondor Pool in Federated Cloud Environment, ICCT 2016*](#).
17. Sangwook Bae, **Amol Jaikar**, Syed Asif Raza Shah, Seo-Young Noh, [*Study of control communication system for 6LowPAN / 836, ICCT 2016*](#).
18. Syed Asif Raza Shah, Sangwook Bae, **Amol Jaikar**, Seo-Young Noh, [*An Optimal and Utilization Aware Virtual Machine Scheduling for Scientific Workloads in Cloud Data Center, ICCT 2016*](#)
19. Syed Asif Raza Shah, Sangwook Bae, **Amol Jaikar**, Seo-Young Noh, [*Network Softwarization: A Study of SDN and NFV Integration, ICCT 2016*](#)
20. **Amol Jaikar**, Seo-Young Noh, [*OpenStack and Docker Comparison for Scientific Workflow w.r.t. Execution and Energy. ISCA – workshop 2016*](#).
21. Syed Asif Raza Shah, Sangwook Bae, **Amol Jaikar**, Seo-Young Noh, [*An Adaptive Load Monitoring Solution for a Logically Centralized SDN Architecture*](#),
22. L Hajdu, **J Amol**, W Betts, L Didenko, H J Jang, J Lauret, S Y Noh, [*Automated Finite State Workflow for Distributed Data Production, ICAT 2016*](#).

23. **Amol Jaikar**, Syed Asif Raza Shah, Seo-Young Noh, Sangwook Bae, [Performance Evaluation of Storage System NAS and SAN](#). **PlatCon 2016**.
24. Syed Asif Raza Shah, **Amol Jaikar**, Sangwook Bae, Seo-Young Noh, [Improve Performance and Throughput of VMs for Scientific Workloads in a Cloud Environment](#). **PlatCon 2016**.
25. **Amol Jaikar**, Syed Asif Raza Shah, Sangwook Bae, Seo-Young Noh, [Performance Evaluation of Scientific Workflow on OpenStack and OpenVZ](#). **CloudComp 2015**.
26. Syed Asif Raza Shah, **Amol Jaikar**, Seo-Young Noh, [A Performance Analysis of Precopy, Postcopy and Hybrid Live VM Migration Algorithms in Scientific Cloud Computing Environment](#), **HPCS - workshop 2015**.
27. Huang Dada, **Amol Jaikar**, Geyong-Ryoon Kim, Syed Asif Raza Shah, Seo-Young Noh, [Lightweight Simulator for Scientific Federated Cloud Environment](#). **PlatCon 2015**.
28. **Amol Jaikar**, Huang Dada, Geyong-Ryoon Kim, Seo-Young Noh. [Priority-based Virtual Machine Allocation Algorithm in a Scientific Federated Cloud](#). **CloudNet 2014**.
29. **Amol Jaikar**, Huang Dada, Geyong-Ryoon Kim, Seo-Young Noh. [Slot-based Virtual Machine Migration Algorithm in a Virtual Cluster for Space sharing environment](#). **ICCT 2014**
30. **Amol Jaikar**, Seo-Young Noh. [Fetching Time Interval Algorithm of a Queue for HTCondor in a Scientific Federated Cloud](#). **PlatCon 2014**.
31. **Amol Jaikar**, Geyong-Ryoon Kim, Seo-Young Noh. [Effective Memory Management for the Virtualization Technology](#). **PlatCon 2014**.
32. Huang Dada, **Amol Jaikar**, Geyong-Ryoon Kim, Young-Kuk Kim, Seo-Young Noh [A Self Synchronization Mechanism in a Federated Cloud](#). **PlatCon 2014**.
33. Geyong-Ryoon Kim, **Amol Jaikar**, Seo-Young Noh, Heejun Yun. [Batch job monitoring system for Batch Scheduler](#). **PlatCon 2014**
34. Geyong-Ryoon Kim, **Amol Jaikar**, Huang Dada, Boram Jin, Seo-Young Noh [Performance Evaluations on Virtual CPU Allocations in HTCondor Cluster System](#). **PlatCon 2014**.
35. Geyong-Ryoon Kim, **Amol Jaikar**, Huang Dada, Boram Jin, Seo-Young Noh [A Result for Performance Measurement of Virtual Resource based High Throughput Computing](#). **PlatCon 2014**.
36. **Amol Jaikar**, Gyeong-Ryoon Kim, Seo-Young Noh. [Effective Data Center Selection Algorithm for a Federated Cloud](#). **Cloud computing workshop 2013**.
37. **Amol Jaikar**, Gyeong-Ryoon Kim, Dada Huang, Seo-Young Noh. [A Hardware-based Virtual Machine Provisioning Algorithm](#). **ICCT 2013**.
38. Gyeong-Ryoon Kim, **Amol Jaikar**, Seo-Young Noh, Heejun Yoon. [Integratable Job Monitoring System for Batch Schedulers](#). **ICCT 2013**.
39. Gyeong-Ryoon Kim, **Amol Jaikar**, Seo-Young Noh. [A Study on Performance Measurement of High Throughput Computing over Virtual Resource](#). **ICCT 2013**.
40. Robin Kalia, **Amol Jaikar**. [Rain Removal from Videos using the Temporal Statistical Properties](#). 19th International Conference on Computer Graphics, Visualization and Computer Vision'2011