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PUBLICATIONS

In Preparation

- P.1 **AbdelBaky, M.**, Sreekanti, V., Kolb, J., Yadwadkar, N., Kim, H.S., Gonzalez, J.E., and Culler D.E., Cloud vs. Edge: A Berkeley View of Systems Challenges in Emerging Computing Utilities. Targeting IEEE Communications Surveys & Tutorials.
- P.2 **AbdelBaky, M.**, Andersen, M.P., and Culler D.E., A Practical Subset Sum. Targeting ACM-SIAM Symposium on Discrete Algorithms (SODA'19)
- P.3 **AbdelBaky, M.**, Lengyel, D., Fierro, G.T. , Panagopoulos, A.A., Pritoni, M., Gonzalez, J.E., and Culler D.E., Reinforcement Learning for Smart Building Control. Targeting the 6th ACM International Conference on Systems for Built Environments (BuildSys'19).
- P.4 Kolb, J., **AbdelBaky, M.**, and Culler D.E., Demystifying Blockchain. Targeting IEEE Communications Surveys & Tutorials.

Submissions

- S.1 2018 – Andersen, M.P., Kumar, S., **AbdelBaky, M.**, Fierro, G.T. , Kolb, J., Kim, H.S., Culler, D.E., and Popa, R.A., WAVE: A Decentralized Authorization Framework with Transitive Delegation. *Submitted to USENIX Symposium on Security (USENIX Security'19)*.
- S.2 2018 – Zamani, A.R., **AbdelBaky, M.**, Balouek-Thomert, D., Villalobos, J.J., Rodero, I. and Parashar, M., Submarine: A Subscription-based Data Streaming Framework for Integrating Large Facilities and Advanced Cyberinfrastructure. *Submitted to Concurrency and Computation: Practice and Experience*.
- S.3 2018 – **AbdelBaky, M.** and Parashar, M., A General Performance and QoS Model for Distributed Software-Defined Environments. *Submitted to IEEE Transactions on Services Computing*.

Journals

- J.1 2017 – **AbdelBaky, M.**, Diaz-Montes, J. and Parashar, M. Software-Defined Environments for Science & Engineering. **The International Journal of High Performance Computing Applications**, 1094342017710706.
- J.2 2015 – Diaz-Montes, J., **AbdelBaky, M.**, Zou, M. and Parashar, M., CometCloud: Enabling Software-Defined Federations for End-to-End Application Workflows. **IEEE Internet Computing**, 19(1), pp.69-73.
- J.3 2013 – Parashar, M., **AbdelBaky, M.**, Rodero, I. and Devarakonda, A., Cloud Paradigms and Practices for Computational and Data-enabled Science and Engineering. **IEEE Computing in Science & Engineering**, 15(4), pp.10-18.
- J.4 2012 – **AbdelBaky, M.**, Parashar, M., Kim, H., Jordan, K.E., Sachdeva, V., Sexton, J., Jamjoom, H., Shae, Z.Y., Pencheva, G., Tavakoli, R. and Wheeler, M.F., Enabling High-performance Computing as a Service. **IEEE Computer**, 45(10), pp.72-80. **Published as the featured research in October 2012.**

- J.5 2010 – Huber, M., Rabin, B., Docan, C., Burdea, G.C., **AbdelBaky, M.** and Golomb, M.R., Feasibility of Modified Remotely Monitored In-home Gaming Technology for Improving Hand Function in Adolescents With Cerebral Palsy. **IEEE Transactions on Information Technology in Biomedicine**, 14(2), pp.526-534.
- J.6 2010 – Golomb, M.R., McDonald, B.C., Warden, S.J., Yonkman, J., Saykin, A.J., Shirley, B., Huber, M., Rabin, B., **AbdelBaky, M.**, Nwosu, M.E. and Barkat-Masih, M., In-home Virtual Reality Videogame Telerehabilitation in Adolescents With Hemiplegic Cerebral Palsy. **Archives of physical medicine and rehabilitation**, 91(1), pp.1-8. **Published as the leading paper in January 2010.**

Conference & Workshop Proceedings

- C.1 2018 – Fierro, G.T., Pritoni, M., **AbdelBaky, M.**, Raftery, P., Peffer, T., Thomson, G., and Culler, D.E., Mortar: An Open Testbed for Portable Building Analytics. The 5th ACM International Conference on Systems for Built Environments (**BuildSys'18**).
- C.2 2017 – Zamani, A.R., **AbdelBaky, M.**, Balouek-Thomert, D., Villalobos, J.J., Rodero, I. and Parashar, M., Submarine: A Subscription-based Data Streaming Framework for Integrating Large Facilities and Advanced Cyberinfrastructure. The 8th International Workshop on Data-Intensive Computing in the Clouds, in conjunction with the 30th International Conference for High Performance Computing, Networking, Storage and Analysis (**SC'17**).
- C.3 2017 – **AbdelBaky, M.**, Zou, M., Zamani, A.R., Renart, E., Diaz-Montes, J., and Parashar, M., Computing in the Continuum: Combining Pervasive Devices and Services to Support Data-driven Applications. The 37th IEEE International Conference on Distributed Computing Systems (**ICDCS'17**).
- C.4 2017 – **AbdelBaky, M.**, Diaz-Montes, J. and Parashar, M., Towards Distributed Software-Defined Environments. The 2017 IEEE/ACM 17th International Symposium on Cluster, Cloud and Grid Computing (**CCGrid'17**).
- C.5 2017 – **AbdelBaky, M.**, Diaz-Montes, J., Unuvar, M., Romanus, M., Steinder, M., Rodero, I. and Parashar, M., Enabling Distributed Software-Defined Environments Using Dynamic Infrastructure Service Composition. In Proceedings of the 2017 IEEE/ACM 17th International Symposium on Cluster, Cloud and Grid Computing (**CCGrid'17**).
- C.6 2016 – Wang, J., **AbdelBaky, M.**, Diaz-Montes, J., Purawat, S., Parashar, M. and Altintas, I., Kepler+ CometCloud: Dynamic Scientific Workflow Execution on Federated Cloud Resources. The 2016 3rd Workshop on Advances in the Kepler Scientific Workflow System and Its Applications. In conjunction with the International Conference on Computational Science (**ICCS'16**).
- C.7 2015 – **AbdelBaky, M.**, Unuvar, M., Diaz-Montes, J., Parashar, M. and Steinder, M., Docker Containers Across Multiple Clouds and Data Centers. The 2015 IEEE/ACM 8th International Conference on Utility and Cloud Computing (**UCC'15**). **Winner of the 2015 Cloud Challenge Award – Category 2.**
- C.8 2015 – **AbdelBaky, M.**, Diaz-Montes, J., Zou, M. and Parashar, M., A Framework for Realizing Software-Defined Federations for Scientific Workflows. The 2nd International Workshop on Software-Defined Ecosystems co-located with the 24th ACM International Symposium on High-Performance Distributed Computing (**HPDC'15**).
- C.9 2012 – Qi, X., Xing, F., Ghadge, M., Rodero, I., **AbdelBaky, M.**, Parashar, M., Sadimin, E., Foran, D.J. and Yang, L., Content-based Image Retrieval on Imaged Peripheral Blood Smear Specimens using High Performance Computation. The Data- & Compute-Intensive Clinical & Translational Imaging Applications workshop. In conjunction with the 15th International Conference on Medical Image Computing and Computer Assisted Intervention (**DICTA-MICCAI'12**).

- C.10 2012. **AbdelBaky, M.**, Kim, H., Rodero, I. and Parashar, M., Accelerating MapReduce Analytics Using CometCloud. The 2012 IEEE 5th International Conference on Cloud Computing (**IEEE CLOUD'12**).
- C.11 2009 – Kim, H., **AbdelBaky, M.** and Parashar, M., CometPortal: A Portal for Online Risk Analytics Using CometCloud. In Proceedings of the 18th International Conference on Computing Theory and Applications (**ICCTA'09**).
- C.12 2009 – Golomb, M.R., Barkat-Masih, M., Rabin, B., **AbdelBaky, M.**, Huber, M. and Burdea, G., Eleven Months of Home Virtual Reality Telerehabilitation-Lessons Learned. The 2009 IEEE Virtual Rehabilitation International Conference (**ICVR'09**).
- C.13 2008 – Huber, M., Rabin, B., Docan, C., Burdea, G., Nwosu, M.E., **AbdelBaky, M.** and Golomb, M.R., PlayStation 3-based Tele-rehabilitation for Children With Hemiplegia. The 2008 IEEE Virtual Rehabilitation International Conference (**ICVR'08**).

Invited Papers & Reports

- I.1 2018 – Translational Data Science - Industry / Academic Confluence, Conference Final Report, Berkeley Institute for Data Science (BIDS), University of California, Berkeley.
- I.2 2017 – Zamani, A.R., **AbdelBaky, M.**, Balouek-Thomert, D., Rodero, I. and Parashar, M., Supporting Data-driven Workflows Enabled by Large Scale Observatories. The First International Workshop on Workflow Science (WoWS 2017), co-located with the 13th IEEE International Conference on eScience (**eScience'17**).
- I.3 2015 – Parashar, M., **AbdelBaky, M.**, Zou, M., Zamani, A.R. and Diaz-Montes, J., Realizing the Potential of IoT Using Software-Defined Ecosystems. The 2015 IEEE 8th International Conference on Cloud Computing (**IEEE CLOUD'15**).
- I.4 2014 – **AbdelBaky, M.**, Diaz-Montes, J., Johnston, M., Sachdeva, V., Anderson, R.L., Jordan, K.E. and Parashar, M., Exploring HPC-based Scientific Software as a Service Using CometCloud. The IEEE 2014 International Conference on Collaborative Computing: Networking, Applications and Worksharing (**CollaborateCom'14**).
- I.5 2014 – Diaz-Montes, J., **AbdelBaky, M.**, Zou, M. and Parashar, M., Software-Defined Federated Cyber-infrastructure for Science and Engineering. The 2014 ACM international workshop on Software-Defined Ecosystems co-located with the 23rd ACM International Symposium on High-Performance Distributed Computing (**HPDC'14**).
- I.6 2012 – Parashar, M., **AbdelBaky, M.**, Rodero, I. and Devarakonda, A., Cloud Paradigms and Practices for CDS&E. Rep. Print. Cloud and Autonomic Computing Center Research Report.