### **Johnson P Thomas**

Professor and Graduate Coordinator

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### **Areas of Interest**

* Big Data and applied Machine Learning/Artificial Intelligence
* Security and Privacy
* Health data analysis
* Cognitive Computing and Neuroscience

### **Education**

* B.Sc - Electrical Engineering, University of Wales (College - University College, Cardiff)
* M.Sc - Electrical Engineering and Computer Science, University of Edinburgh, Scotland
* Ph.D - Computer Science, University of Reading, England

### **News**

* Ashwin Kannan (PhD, December 2021) – Research Scientist in Sunnyvale, California at Amazon Labs headquarters (innovation and research wing of Amazon)
* Dr Thomas – panelist NSF RET program (December 2021)

### **Publications**

Last 5 years

### Journal

* Doyel Pal, Praveen Khethavath, Johnson P Thomas, Utpal Mangla, “KeyPIn – Mitigating the free rider problem in the Distributed Cloud based on Key, Participation, and Incentive" *Journal of Cloud Computing*, (Springer - accepted)
* Goutam Mylavarapu, K Ashwin Viswanathan, Johnson  Thomas, “Context-ware Automated Quality Assessment of Textual Data”, *International Journal of Business Intelligence and Data Mining* (accepted)
* Gurjinder S. Baath, Harpinder K. Baath, Prasanna H. Gowda, Johnson P. Thomas, Brian K. Northup, Srinivas C. Rao, Hardeep Singh, “Predicting Forage Quality of Warm-Season Legumes by Near Infrared Spectroscopy Coupled with Machine Learning Techniques”. *Sensors* 20 (3): 867 (MDPI), 2020
* Ashwin Kumar Thandapani Kumarasamy, Xiaofei Hou, Johnson P Thomas and Hong Liu, “Content Sensitivity Based Access Control Framework For Big Data”, *Digital Communications and Networks, Special Issue on "Big Data Security and Privacy",* (Elsevier), 2017
* T.K.Ashwin Kumar, J.P. Thomas and S Parepally, “An Efficient and Secure Information Storage and Retrieval Framework for Content Centric Networks”, *Journal of Parallel and Distributed Computing* (Elsevier), 2017.
* Praveen Khethavath, Johnson P Thomas and Eric Chan-Tin, “Towards an efficient Distributed cloud computing architecture”, *Peer-to-peer Networking and Applications* (Springer), 2016

Conference

* K.Ashwin Viswanathan, Goutam Mylavarapu, and Johnson P Thomas, Unsupervised Spiking Neural Model of Prefrontal Cortex to study Task Switching with Synaptic deficiency, *28th International Conference on Neural Information Processing,* 2021 (accepted)
* Reza Marzban, Johnson Thomas and Christopher Crick, “Targeting the Most Important Words Across the Entire Corpus in NLP Adversarial Attacks”, *20th International Conference on Artificial Intelligence and Soft Computing*, Springer-Verlag series, “”*Lecture Notes in Artificial Intelligence*, 2021
* Theodore Lee Ward, Ernst Bekkering and Johnson Thomas, “Distributed Density Measurement with Mitigation of Edge Effects”, *Future of Information and Communication Conference* 2021, Springer series "A*dvances in Intelligent Systems and Computing*", 2021
* Mounika Kasaraneni and Johnson P Thomas, “A Self -Learning Personal Privacy Assistant”, *34th International Conference on Advanced Information Networking and Applications* (AINA-2020). Springer Series "*Advances in Intelligent Systems and Computing*" 2020
* Ashwin Viswanathan Kannan, Goutam Mylavarapu, Kun Chen, Johnson P Thomas, “A Study of Prefrontal Cortex Task Switching Using Spiking Neural Networks” *Twelfth International Conference on Advanced Computational Intelligence*, 2020
* Goutam Mylavarapu, K Ashwin Viswanathan and Johnson P Thomas, “Assessing Context-Aware Data Consistency”, *16th ACS/IEEE International Conference on Computer Systems and Applications* (AICCSA 2019)
* Goutam Mylavarapu, Johnson P Thomas and K Ashwin Viswanathan, “An Automated Big Data Accuracy Assessment Tool”, 2019 *IEEE 4th International Conference on Big Data Analysis* (ICBDA 2019)
* Ashwin Viswanathan Kannan, Goutam Mylavarapu and Johnson Thomas, “Biologically Inspired Augmented Memory Recall Model for Pattern Recognition”, 2*018 International Conference on Cognitive Computing*, Springer *Lecture Notes in Computer Scien*ce (LNCS), Vol. 10971, 2018
* Goutam Mylavarapu and Johnson P Thomas, “A Multi-task Machine Learning Approach for Comorbid Patient Prioritization”, *Workshop on Big Data Analytic Technology for Bioinformatics and Health Informatics* (KDDBHI), co-located with 2107 *IEEE International Conference on Big Data* (IEEE BigData)
* Xiaofei Hou, Ashwin Kumar T K, Johnson P Thomas and Hong Liu, “Dynamic Deadline-constraint Scheduler for Hadoop YARN”, *2017 IEEE Conference on Cloud and Big Data Computing* (CBDCom 2017), 2017
* Nishigande Kale, Joshua Thomas, Rupesh Agarwal, Bruce Benjamin and Johnson P Thomas, “Predicting Cardiovascular Events: Sensitivity and Specificity”, *2017 International Conference on Health Informatics and Medical Systems,* 2017, ISBN: 1-60132-459-6
* Hong Liu, Ashwin Kumar TK, Johnson P Thomas, Xiaofei Hou, “Cleaning Framework for BigData: An Interactive approach for Data Cleaning”, *2nd IEEE International Conference on Big Data Computing Service and Applications* (IEEE BigDataService), 2016
* Xiaofei Hou, Doyel Pal, Ashwin Kumar T K, Johnson Thomas and Hong Liu, “Privacy Preserving Rack-based Dynamic Workload Balancing for Hadoop MapReduce”, 2*nd IEEE International Conference on Big Data Security on Cloud* (BigDataSecurity), 2016
* Ashwin Kumar Thandapani Kumarasamy, Hong Liu and Johnson Thomas, “An Information Entropy Based Approach to Identify Sensitive Information in Big Data”, *2nd IEEE International Conference on Big Data Security on Cloud* (BigDataSecurity), 2016
* Ashwin Kumar TK, K M George and Johnson P Thomas, “An empirical approach to detection of topic bubbles in tweets”, *2nd IEEE/ACM Symposium on Big Data Computing*, 2015

### **Funding**

* National Science Foundation (current and past)
* United States Department of Agriculture (current and past)
* Department of Defense - Army Research Office (past)
* NASA Epscor (past)
* Oklahoma State University (past)

### **Teaching**

Spring 2022

* Organization of Programming Languages
* Big Data Management

### **Service**

Spring 2022

* Graduate program coordinator
* OSU-Tulsa Academic Integrity Facilitator
* College of Arts and Sciences, Faculty committee