

Mustafa Saifuddin Salman

PhD student, School of Electrical & Computer Engineering
Georgia Institute of Technology
Graduate Research assistant, TReNDS
Atlanta, GA, USA

Phone: (505) 313-2533
Email: esalman@gatech.edu
cpu.salman@gmail.com
Website: www.esalman.com
[Google Scholar](#), [Github](#)
[LinkedIn](#)

Education

Ph.D., Electrical & Computer Engineering, Georgia Institute of Technology, Summer 2019-present
CGPA: 4.0, Major: ECE, Minor: Industrial & Systems Engineering

M.Sc., Electrical & Computer Engineering, University of New Mexico, Fall 2015-Spring 2019
CGPA: 3.84, Major: Bioengineering in EE

M.B.A., Institute of Business Administration, Dhaka University, Bangladesh, 2013
Major: Finance, Minor: Marketing
Dissertation: Financial Feasibility of a Stock Simulation Program

B.S., Electrical & Electronic Engineering, Bangladesh University of Engineering & Technology, 2009
Major: Communications, Minor: Electronics
Dissertation: A Study On IPTV: An Emphasis On Quality Control

Employment

Graduate Research Assistant, Center for Translational Research in Neuroimaging & Data Science (TReNDS), Atlanta, GA, 2019–present

Graduate Research Assistant, Mind Research Network, Albuquerque, NM, 2015–2019
Currently analyzing high-dimensional multimodal brain imaging data to identify predictive patterns of function in the healthy and diseased human brain.

Co-founder & CTO, Dimik Infotech, Dhaka, Bangladesh, 2011–2015
Developed software for Dhaka Stock Exchange (DSE) brokers, and web and mobile applications for offshore small business clients.

Web Application Developer, Technobd Web Solutions, Dhaka, Bangladesh, 2009–2011
Developed web and mobile applications according to client requirements.

Research

Research Interests: My interests are in digital signal and image processing, machine learning, artificial intelligence, data science and generally any problem that can be solved using a computer. As a graduate research assistant at TReNDS, I analyze high dimensional brain imaging data to identify predictive patterns of function in the healthy and diseased brain.

Google Scholar profile: <https://scholar.google.com/citations?user=ahkZvZQAAAAJ>

Journal Articles

1. Du, Y., Fu, Z., Sui, J., Gao, S., Xing, Y., Lin, D., **Salman, M.**, Rahaman, M.A., Abrol, A., Chen, J., Hong, E., Kochunov, P., Osuch, E.A., Calhoun, V.D., 2019. NeuroMark: a fully automated ICA method to identify effective fMRI markers of brain disorders. *NeuroImage: Clinical* (*under review*). doi:10.1101/19008631 (preprint)
2. Vergara V.M., **Salman, M.**, Abrol A., Espinoza F.A., Calhoun V.D.. Determining the Number of States in Dynamic Functional Connectivity Using Cluster Validity Indexes. *Journal of Neuroscience Methods*. 2020 Feb;108651. doi:10.1016/j.jneumeth.2020.108651
3. **Salman, M.**, Vergara V.M., Damaraju E., Calhoun V.D.. Decreased Cross-Domain Mutual Information in Schizophrenia From Dynamic Connectivity States. *Front Neurosci*. 2019 Aug 22;13:873. doi:10.3389/fnins.2019.00873
4. Qi, S., Sui, J., Chen, J., Liu, J., Jiang, R., Silva, R., Iraj, A., Damaraju, E., **Salman, M.**, Lin, D., Fu, Z., Zhi, D., Turner, J.A., Bustillo, J., Ford, J.M., Mathalon, D.H., Voyvodic, J., McEwen, S., Preda, A., Belger, A., Potkin, S.G., Mueller, B.A., Adali, T., Calhoun, V.D., 2019. Parallel group ICA+ICA: Joint estimation of linked functional network variability and structural covariation with application to schizophrenia. *Hum Brain Mapp hbm.24632*. doi:10.1002/hbm.24632
5. **Salman, M.**, Du, Y., Lin, D., Fu, Z., Fedorov, A., Damaraju, E., Sui, J., Chen, J., Mayer, A., Posse, S., Mathalon, D., Ford, J.M., Van Erp, T., Calhoun, V.D., 2019. Group ICA for identifying biomarkers in schizophrenia: "Adaptive" networks via spatially constrained ICA show more sensitivity to group differences than spatio-temporal regression. *NeuroImage: Clinical* 101747. doi:10.1016/j.nicl.2019.101747
6. Du, Y., Pearlson, G.D., Lin, D., Sui, J., Chen, J., **Salman, M.**, Tamminga, C.A., Ivleva, E.I., Sweeney, J.A., Keshavan, M.S., Clementz, B.A., Bustillo, J., Calhoun, V.D., 2017. Identifying dynamic functional connectivity biomarkers using GIG-ICA: Application to schizophrenia, schizoaffective disorder, and psychotic bipolar disorder. *Human Brain Mapping* 38, 2683-2708. doi:10.1002/hbm.23553

Conference Proceedings

1. Du, Y., **Salman, M.** et al., 2019. A unified ICA framework for identifying neuro-markers in functional connectivity among multiple different brain disorders. Presented at the ISMRM 2019.
2. **Salman, M.**, Vergara, V.M., Damaraju, E., Calhoun, V.D., 2018. Weak Mutual Information Between Functional Domains in Schizophrenia. in: 52nd Asilomar Conference on Signals, Systems, and Computers. doi:10.1109/ACSSC.2018.8645233
3. Du, Y., Fu, Z., Lin, D., **Salman, M.**, Rahaman, M.A., Abrol, A., Calhoun, V.D., 2018. Shared and specific functional and structural changes in schizophrenia and autism spectrum disorder. in: Sixth Biennial Conference on Resting State and Brain Connectivity.
4. Du, Y., Pearlson, G.D., Lin, D., Sui, J., Chen, J., **Salman, M.**, Tamminga, C.A., Ivleva, E.I., Sweeney, J.A., Keshavan, M.S., Clementz, B.A., Bustillo, J., Calhoun, V.D., 2017. Identifying Dynamic Functional Connectivity Biomarkers Using GIG-ICA: Application to Psychosis. in: 23rd Annual Meeting of the Organization for Human Brain Mapping (OHBM).
5. **Salman, M.**, Du, Y., Calhoun, V.D., 2017. Identifying FMRI dynamic connectivity states using affinity propagation clustering method: Application to schizophrenia. Presented at the 2017 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), pp. 904-908. doi:10.1109/ICASSP.2017.7952287

6. **Salman, M.**, Du, Y., Damaraju, E., Lin, Q., Calhoun, V.D., 2017. Group information guided ICA shows more sensitivity to group differences than dual-regression. Presented at the 2017 IEEE 14th International Symposium on Biomedical Imaging (ISBI 2017), pp. 362-365. [doi:10.1109/ISBI.2017.7950538](https://doi.org/10.1109/ISBI.2017.7950538)

Reviewing Services

Frontiers in Neuroscience, Human Brain Mapping

Workshops

Provided assistance to the participants of the biennial "The Mind Research Network (MRN) fMRI Image Acquisition and Analyses Course with SPM and ICA" since Summer 2016.

Honors & Awards

Doctoral Conference Presentation Award, UNM, \$1000 each, 2018 & 2017

Second annual student paper competition, ECE-GSA, UNM- 3rd place (conference category), 2017

IEEE International Symposium on Biomedical Imaging, Conference travel grant, \$1000, 2017

UNM App Contest, LoboTutor app, 4th place, 2016-17

Societies

Student member, IEEE & IEEE Signal Processing Society, since 2016

Member, Organization for Human Brain Mapping (OHBM), since 2017

Graduate member, Society for Neuroscience, since 2019

Miscellaneous

Computer Skills

Programming: scripting & object-oriented language (C, PHP, Python, JavaScript, Java, Actionscript), markup language (HTML/CSS, \LaTeX), version control (SVN, Git) etc.

Data science, scientific computing (R, MATLAB), machine learning & artificial intelligence (SciPy, TensorFlow etc.)

High performance & cloud computing (AWS, S3, SLURM)

Web, Android & database application development

Operating systems (Windows, Linux & OS X)

Entrepreneurship, co-founded a stock-market software start-up, Dimik Infotech Ltd. in Dhaka, Bangladesh, 2011-2015

Developer advisor at stackoverflow.com, voluntarily answering computer programming questions