Kife Intasar Bin Iqbal

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Current Status

Ph.D. Candidate
School of Computer and Information Technology, Shanxi University, Taiyuan, China

Education

2021 **M.Sc. in Mathematics**
Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

2017 **B.Sc. in Applied Mathematics**
University of Rajshahi, Rajshahi, Bangladesh.

M.Sc. Thesis

Title **Error Minimization of Reduced Models of Large-Scale Systems by Solving Time and Frequency Restricted Lyapunov Equations.**

Online Available http://lib.buet.ac.bd:8080/xmlui/handle/123456789/5919

Research Experiences

Research Assistant
Project title:*Model Order Reduction for Aircraft Wing Shape Optimization (CTRG-21-SEPS-15)*

Research Assistant
Project title:*Developing Mathematical Algorithms and Softwares for the Model reduction of Large-Scale Dynamical Systems (MS20191055)*

Research Publications

Journal Articles

1. Du, X., **Iqbal, K. I. B.**, Uddin, M. M., Hossain, M. T., & Shuzan, M. N. I. (2023). A computationally effective time-restricted stability preserving $\mathcal{H}_2$-optimal model order reduction approach. ***Results in Control and Optimization***, 100217.
doi:https://doi.org/10.1016/j.rico.2023.100217

2. **Iqbal, K. I. B.**, Du, X., Uddin, M. M., & Uddin, M. F. (2022). Balanced truncation for reduced-order modeling of piezoelectric tonpilz transducer on the limited frequency interval. ***Applied Mathematical Modelling***, *111*, 63–77. doi:https://doi.org/10.1016/j.apm.2022.06.010

3. **Iqbal, K. I. B.**, Rafique, A., & Uddin, M. F. (2022). Inventory optimization model of deteriorating items with nonlinear ramped type demand function. ***Journal of Naval Architecture and Marine Engineering***, *19*, 13–30. doi:http://dx.doi.org/10.3329/jname.v19i1.53078

4. Islam, M., **Iqbal, K. I. B.**, Saiduzzaman, M., Uddin, M. M., & Gani, M. O. (2022). Generation of the mathematical model to analyze the dynamical behaviour of the blood flow. ***Journal of Interdisciplinary Mathematics***, *25*(7), 2019–2027.
doi:https://doi.org/10.1080/09720502.2022.2133229

5. Du, X., **Iqbal, K. I. B.**, Uddin, M. M., Fony, A. M., Hossain, M. T., Ahmad, M. I., & Hossain, M. S. (2021). Computational techniques for $\mathcal{H}_2$ optimal frequency-limited model order reduction of large-scale sparse linear systems. ***Journal of Computational Science***, *55*, 101473. doi:https://doi.org/10.1016/j.jocs.2021.101473

Conference Proceedings

1. Haque, A., Hossain, T., Murshed, M., **Iqbal, K. I. B.**, & Uddin, M. M. (2022). Estimating aerodynamic data via supervised learning. In *2022 25th International Conference on Computer and Information Technology (ICCIT)*. doi:10.1109/ICCIT57492.2022.10054896

2. Saiduzzaman, M., Islam, M. S., **Iqbal, K. I. B.**, Uddin, M. M., & Gani, M. O. (2022a). Frequency limited model reduction for large scale second-order index 1 system. In *2022 25th International Conference on Computer and Information Technology (ICCIT)*. doi:10.1109/ICCIT57492.2022.10054842

3. Saiduzzaman, M., Islam, M. S., **Iqbal, K. I. B.**, Uddin, M. M., & Gani, M. O. (2022b). The frequency restricted model order reduction for large scale index-1 descriptor system. In *National Mathematics Conference 2022*.

4. **Iqbal, K. I. B.**, Uddin, M. M., & Uddin, M. F. (2020a). In search of frequency-limited low-rank gramian factors for the balancing based model reduction of large-scale sparse descriptor system. In *2020 23rd International Conference on Computer and Information Technology (ICCIT)* (pp. 1–5). doi:10.1109/ICCIT51783.2020.9392667

5. **Iqbal, K. I. B.**, Uddin, M. M., & Uddin, M. F. (2020b). Stability preservation of frequency-limited balancing based reduced order model of large scale index-1 descriptor system. In *2020 11th International Conference on Electrical and Computer Engineering (ICECE)* (pp. 57–60). doi:10.1109/ICECE51571.2020.9393106

Books and Chapters

1. **Iqbal, K. I. B.**, Du, X., Uddin, M. M., & Uddin, M. F. (2021). Time restricted balanced truncation for index-I descriptor systems with non-homogeneous initial condition. In *Algorithms for intelligent systems* (pp. 179–190). doi:10.1007/978-981-16-0586-4_15

Invitations as a speaker

1. **Invited speaker**. (2021.12.11). 22^{nd} International Mathematics Conference (IMC 2021), 10-11 December, 2021, Bangladesh Mathematical Society (BMS), Dhaka, Bangladesh.

2. **Paper presenter**. (2020.11.21). 4^{th} International Joint Conference on Advances in Computational Intelligence (IJCACI 2020), 20-21 November, 2020, Daffodil International University, Dhaka, Bangladesh.

3. **Paper presenter**. (2020.12.19). 11^{th} International Conference on Electrical and Computer Engineering (ICECE 2020), 17-19 December, 2020, BUET, Dhaka, Bangladesh.

4. **Paper presenter**. (2020.12.20). 23^{rd} International Conference on Computer and Information Technology (ICCIT 2020), 19-21 December, 2020, Ahsanullah University of Science and Technology, Dhaka, Bangladesh.

Under Review

Journal Articles

1. Hossain, M. T., **Iqbal, K. I. B.**, haque, A., & Uddin, M. M. (n.d.). The optimization of the adjacent air layer to the airfoils predicted by the béziergan algorithm applying model order reduction technique. *IEEE Access*.

2. **Iqbal, K. I. B.**, Du, L., Uddin, M. M., Uddin, M. F., & Hossain, M. T. (n.d.). Order reduction of blood circulation through carotid model: A mathematical optimization approach of finite element simulation on certain time and frequency domains. *International Journal for Numerical Methods in Engineering*.

Skills

Languages	Strong reading, writing, and speaking competencies in English and Bangla.
Coding	MATLAB, Python, C.
Simulation Soft	COMSOL MULTIPHYSICS, ANSYS.
Misc.	Academic research, LaTeX typesetting and publishing.