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ACADEMIC EMPLOYMENT AND AFFILIATIONS

Rutgers School of Business - Camden (RSBC), Rutgers University

Instructor of Professional Practice (Area: Management), September 2019 – **present**

Rutgers Business School – Newark and New Brunswick (RBS), Rutgers University

Part-time Lecturer (Area: Management Science & Information Systems), September 2018 – July, 2019

Mechanical and Industrial Engineering, Qatar University, Qatar

Postdoctoral Researcher and Part-time Faculty, September 2015 – October 2017

EDUCATION

Doctor of Philosophy, Rutgers the State University of New Jersey

Industrial and Systems Engineering, 2014

Master of Science, The University of Texas at Austin

Operations Research and Industrial Engineering, 2008

Master of Science, Korea Advanced Institute of Science and Technology (KAIST), Korea

Computer Science, 2002

Bachelor of Arts, Pohang University of Science and Technology (POSTECH)

Mathematics, minor in Computer Science, 2000

TEACHING EXPERIENCE

Rutgers University, School of Business - Camden (RSBC)

Data Management and Business Intelligence (MBA, online): Summer 2022 – 2023

Optimization and Spreadsheet Model: Spring 2021 – 2023 (online), Fall 2020 – 2023 (online), Fall 2019 – 2023 (in-person)

Operations Management: Fall 2019 (online), Spring 2020 – 2024 (in-person)

Applied Business Statistics: Fall 2019, 2021 (online), Fall 2020 (in-person), Summer 2020 - 2021 (online), Spring 2020 (in-person), Spring 2020 – 2024 (online)

Introduction to Business Statistics: Fall 2021, 2023 (online)

Information Technology and Project Management: Fall 2022 (in-person)

Rutgers University, Rutgers Business School – Newark and New Brunswick (RBS)

Production and Operation Management: Spring and Summer 2019 (in-person)

Computer Network Applications: Spring 2019 (in-person)

Management and Information Systems: Fall 2018 (in-person, 2 sessions)

PUBLICATIONS (PEER-REVIEWED)

Refereed Journal Papers

- Tosyali, A., **Kim, J.**, Choi, J., Kang, Y., Jeong, M. K., “New node anomaly detection algorithm based on nonnegative matrix factorization for directed citation networks.” *Annals of Operations Research*, 288 (1), 457-474, 2020.
- Abdella, G., **Kim, J.**, Kim, S., Al-Khalifa, K. N., Jeong, M. K., Hamouda, A. M. S., Elsayed, E. A., “An Adaptive Thresholding-Based Process Variability Monitoring.” *Journal of Quality Technology*, 51(3), 242-256, 2019.
- Kim, J.**, Abdella, G. M., Al-Khalifa, K. N., Hamouda, A. M. S., “Control charts for variability monitoring in high-dimensional processes.” *Computers & Industrial Engineering*, 130, 309-316, 2019.
- Tosyali, A., **Kim, J.**, Choi, J., Jeong, M. K., “Regularized asymmetric nonnegative matrix factorization for clustering in directed networks.” *Pattern Recognition Letter*, 125, 750-757, 2019.
- Abdella, G., **Kim, J.**, Al-Khalifa, K. N., Hamouda, A. M. S., “Penalized Conway-Maxwell-Poisson Regression for Modelling Dispersed Discrete Data: The Case Study of Motor Vehicle Crash Frequency.” *Safety Science*, 120,157-163, 2019.
- Kim, S., **Kim, J.**, Jeong, M. K., Al-Khalifa, K. N., Hamouda, A. M. S., Elsayed, E. A., “Monitoring and control of beta-distributed multistage production processes.” *Quality Technology & Quantitative Management*, 16(1), 1-18, 2019.
- Kim, J.**, Jeong, M. K., Elsayed, E. A., “Monitoring multistage processes with autocorrelated observations.” *International Journal of Production Research*, 55(8), 2385-2396, 2017.
- Abdella, G., **Kim, J.**, Hamouda, A. M. S., Al-Khalifa, K. N., “Double EWMA-Based Polynomial Quality Profiles Monitoring.” *Quality and Reliability Engineering International*, 32(8), 2639-2652, 2016.
- Kim, J.**, Al-Khalifa, K. N., Jeong, M. K., Hamouda, A. M. S., Elsayed, E. A., “An Adaptive Step-Down Procedure for Fault Variable Identification.” *International Journal of Production Research*, 54(11), 3187-3200 , 2016.
- Kim, J.**, Al-Khalifa, K. N., Jeong, M. K., Hamouda, A. M. S., Elsayed, E. A., “Multivariate statistical process control charts based on the approximate sequential χ^2 test.” *International Journal of Production Research*, 52(18), 5514-5527, 2014.
- Kim, J.**, Al-Khalifa, K. N., Park, M., Jeong, M. K., Hamouda, A. M. S., Elsayed, E. A., “Adaptive cumulative sum charts with adaptive runs rule.” *International Journal of Production Research*, 51(15), 4556-4569, 2013.
- Park, S., Oh, S., **Kim, J.**, Lee, E., Kim, S., “Band-based geocasting for mobile sink groups in wireless sensor networks.” *Wireless Networks*, 19(6), 1285-1298, 2013.
- Park, M., **Kim, J.**, Jeong, M. K., Hamouda, A. M. S., Al-Khalifa, K. N., Elsayed, E. A., “Economic cost models of integrated APC controlled SPC charts.” *International Journal of Production Research*, 50(14), 3936–3955, 2012.
- Lee, M., Ahn, G., **Kim, J.**, Park, J., Lee, B., Kim, K. and Lee, H., “Design and implementation of an efficient fair off-line e-cash system based on elliptic curve discrete logarithm problem.” *Journal of Communications and Networks*, 4(2), 81-89, 2002.

Refereed Conference Papers

- Park, M., **Kim, J.**, Jeong, M. K., Hamouda, A. M. S., Al-Khalifa, K. N. and Elsayed, E. A., "Integration of Statistical Process Control and Automatic Process Control," *Qualita 2011*, Angers, France, March 23-25, 2011.
- Kim, J.**, Kim, K. and Lee, C., "December. An efficient and provably secure threshold blind signature," In *International Conference on Information Security and Cryptology*, Springer Berlin Heidelberg, 2001.
- Kim, K., **Kim, J.**, Lee, B., Ahn, G., "Experimental design of worldwide Internet voting system using PKI," *SSGRR 2001*, L'Aquila, Italy, August 6-10, 2001.
- Kim, H., Baek, J., Ahn, G., **Kim, J.**, Park, H., Song, B., Lee, M., Park, J. and Lee, B., "Design and implementation of revocable electronic cash system based on elliptic curve discrete logarithm problem," *Proc. of Workshop on Information Security Application 2000 (WISA 2000)*, 2000.

Work In Progress

- Kim, J.** and Kim, H.G., "Machine learning approaches: SMEs innovative activities, Internationalization, and firm performance."

RESEARCH PRESENTATIONS

- Kim, J., Hwang, W-Y, Jeong, M. K., Al-Khalifa, N. K., Hamouda, A. S. and Elsayed, E. A. "An Adaptive Step-down Procedure for Fault Variable Identification," INFORMS Annual Meeting, Minneapolis, MN, October 6-9, 2013.
- Kim, J., Jeong, M. K., Al-Khalifa, N. K., Hamouda, A. S. and Elsayed, E. A. "A LASSO-based Multivariate Control Chart for Process Monitoring and Diagnosis," INFORMS Annual Meeting, Phoenix, Arizona, October 13-16, 2012.
- Kim, J., Park, M. , Jeong, M .K., Hamouda , A. M. S., K. N. Al-Khalifa , K. N., Elsayed, E. A., "Detecting the Time and the Magnitude of a Step Change on Univariate Process," INFORMS Annual Meeting, Charlotte, NC, November 13-16, 2011.
- Kim, J., Park, M., Jeong, M. K., Hamouda, A. M. S., Al-Khalifa, K. N. and Elsayed, E. A., "Multivariate Two-stage Scheme for Mean Shift Detection," Nineteenth Industrial Engineering Research Conference, Reno, Nevada, May 21-25, 2011.
- Park, M., Kim, J., Jeong, M. K., Hamouda, A. M. S., Al-Khalifa, K. N. and Elsayed, E. A., "Integration of SPC and APC for Shift Detection and Control," Nineteenth Industrial Engineering Research Conference, Reno, Nevada, May 21-25, 2011.
- Kim, J., Park, M., Jeong, M. K., Hamouda, A. M. S., Al-Khalifa, K. N. and Elsayed, E. A., "Two-stage control chart for small mean shift detection ," *Qualita 2011*, Angers, France, March 23-25, 2011.

Park, M., Kim, J., Jeong, M. K., Hamouda, A. M. S., Al-Khalifa, K. N. and Elsayed, E. A.,
“Integration of Statistical Process Control and Automatic Process Control,” Qualita 2011,
Angers, France, March 23-25, 2011.

PROFESSIONAL SERVICE

Committee Member, Undergraduate curriculum committee, Rutgers School of Business Camden, 2022 - 2023

Task Force Member, Curriculum revision for the Introduction to Business Computing Course, 2022

Committee Member, Undergraduate curriculum committee, Rutgers School of Business Camden, 2021 - 2022

Committee Member, Undergraduate curriculum committee, Rutgers School of Business Camden, 2020 - 2021

WORK EXPERIENCE

Manufacturing Execution Intern, UTC Aerospace Systems at Princeton, NJ, July 2013 – Dec. 2014

- Analyze semiconductor-processing data and develop a web-based monitoring and reporting system.
- Develop various quality control charts like SPC and Yield charts, bar, pie, speedometer charts to report process data.
- Have experience in statistical analysis like decision tree and liner regression for finding a root cause of dark noise in wafer using JUMP.

Graduate Research Assistant, Rutgers University, New Brunswick, NJ, Jan. 2010 – July 2013

- QNRF Project: A project of Qatar National Research Fund. Detect changes in the LNG processes as soon as they occur to minimize the variability in quality of the final product (LNG) while minimizing the rate of false alarm.
 - Shift detection for both processes with single and multiple parameters.
 - Develop optimum control strategies that consider the combined effects of both APC and SPC.
- MATLAB, R, SAS programming for Monte-Carlo simulations and statistical analysis.

Research Fellow, The University of Texas at Austin, TX, Feb. 2009 - Jun. 2009

Graduate Research Assistant, The University of Texas at Austin, TX, Feb. 2006 - Jan. 2009

- Developed a decision support system for cancer pain management with Dr. Chee, a research professor of Mechanical Engineering department, using Java, JSP, and MySQL, and then converted the system using Ruby on Rails, and AJAX under Linux. The project is funded by NIH/NINR/NCI.
- Implemented a survey management system for cancer survey using RoR, MySQL, and Linux.

Software Engineer, Advanced Financial Technologies (former AskCredit), CA, Feb. 2005 - Jul. 2005

- Developed web services for communicating with 5 other companies using Java, SOAP, and MS-SQL.

Software Engineer, LG CNS. Co., Ltd. (former LG-EDS), Korea, Oct. 2002 - Jul. 2004

- Design and implement a logistic system using Java, Oracle DB, and RFID as a pilot project to detect products with RFID sensor. Provided technical supports and documentations for the systems developed.

AWARDS AND HONORS

- Level II award for rapid web-based MES implementation, UTC Aerospace systems, 2013
- Member of Institute of Industrial Engineers (IIE), Institute for Operations Research and Management Sciences (INFORMS)
- Ph.D. student RA Full scholarship (3 years), Rutgers University, 2010 - 2013
- Third best prize in WIPI mobile programming contest, Korea, Apr. 2004
- Second best paper in Conference on Information Security and Cryptology (CISC'01), Korea, Nov. 2001