

Heba Nasr Awwad Ayyoub

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Professional Summary

Assistant Professor of Statistics at Philadelphia University with a Ph.D. in Applied Statistics from Universiti Sains Malaysia. Experienced in teaching undergraduate mathematics and statistics courses, with research focused on statistical process control, quality improvement, and measurement error modeling. Published in international journals and previously held academic positions in Jordan and Saudi Arabia.

Work Experience

- Head of Mathematics Department – Philadelphia University | Amman, Jordan
Oct/2025 – Present
- Assistant professor – Philadelphia University | Amman, Jordan
Sep/2023 – Present
- Assistant professor – Irbid National University | Irbid, Jordan
Oct/2022 – Sep/2023
- Lecturer – Najran University | Najran, KSA
Aug/2015 – Aug/2018

Education

- Ph.D. in Applied Statistics – Universiti Sains Malaysia (USM) | Pulau Pinang, Malaysia
July/2018 – June/2021
- M.Sc. in Statistics – Yarmouk University | Irbid, Jordan
Sep/2012 – Jan/2015
- B.Sc. in Statistics – Yarmouk University | Irbid, Jordan
Sep/2007 – Aug/2011

Output of Scientific Production

- **Ph.D. Thesis Entitled:** Extensions of Multivariate Coefficient of Variation Control Charts.
- **M.Sc. Thesis Entitled:** On the Average Run Length of Control Charts for Autocorrelated and Periodically Autocorrelated Data.

Publications

1. **Ayyoub, H. N.**, Khoo, M. B. C., Saha, S., & Castagliola, P. (2020). Multivariate coefficient of variation charts with measurement errors. *Computers & Industrial Engineering*, 147, 106633.
2. **Ayyoub, H. N.**, Khoo, M. B. C., Lee, M. H., & Haq, A. (2021). Monitoring multivariate coefficient of variation with upward Shewhart and EWMA charts in the presence of measurement errors using the linear covariate error model. *Quality and Reliability Engineering International*, 37(2), 694 - 716.
3. **Ayyoub, H. N.**, Khoo, M. B. C., Saha, S., & Lee, M. H. (2022). Variable sampling interval EWMA chart for multivariate coefficient of variation. *Communications in Statistics - Theory and Methods*, 51(14), 4617 - 4637.
4. Awajan, A. M., Al-Hasanat, B., Elkaroui, E., AL e'damat, A., Al-Gounmeein, R. S., Al-Jawarneh, A. S., **Ayyoub, H. N.**, & AlFarajat, E. (2024). Time series forecasting of new cases for covid-19 pandemic in jordan using enhanced hybrid emd-arima. *Journal of Statistics Applications & Probability*, 13(1).
5. Al-Jawarneh, A. S., Alsayed, A. R., **Ayyoub, H. N.**, Ismail, M. T., Sek, S. K., Ariç, K. H., & Manzi, G. (2024). Enhancing Model Selection by Obtaining Optimal Tuning Parameters in Elastic-Net Quantile Regression, Application to Crude Oil Prices. *Journal of Risk and Financial Management*, 17(8), 323.
6. Al-Jawarneh, A. S., Alsayed, A. R., & **Ayyoub, H. N.** (2025). Optimizing Modelling Accuracy Using Variational Mode Decomposition and Elastic Net Regression: Evidence in Stock Market Prediction. *Array*, 100603.

Languages

- Arabic: Native
- English: Excellent

TAUGHT COURSES – Undergraduate Level Course

- Pre-calculus.
- Differential Calculus.
- Statistics & Probability (1).
- Statistics & Probability (2).
- Statistical Methods.
- Biostatistics.
- Calculus (1).
- Linear Algebra (1).
- Introduction to Probability and Statistics.
- Probability Theory.
- Mathematical Statistics.

Academic References

- **Michael Khoo Boon Chong, Professor**
School of Mathematical Sciences,
Universiti Sains Malaysia,
Pulau Pinang, Malaysia.
E-mail: mkbc@usm.my
- **Abdullah Ahmed Smadi, Professor**
Faculty of Science, Statistics Department,
Yarmouk University, Irbid, Jordan.
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- **Abdullah Al-Jawarneh, Assistant Professor**
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Amman Arab University, Amman, Jordan
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