# Essam Rashed, Ph.D., SMIEEE

**Professor**, *Graduate School of Information Science, Univ. of Hyogo, Japan* &
**Professor**, *Advanced Medical Engineering Research Institute, Univ. of Hyogo, Japan*
*(concurrent position)* &
**Visiting Professor**, *Nagoya Institute of Technology, Japan*

✉ rashed@gsis.u-hyogo.ac.jp
☎ +81-78-303-1924      (office)
📱 +81-80-7561-3154      (cell)
🌐 https://erashed.weebly.com/rashed
🐙 https://github.com/erashed/
✒ https://researchmap.jp/erashed
in https://www.linkedin.com/in/rashed/
🎓 https://orcid.org/0000-0001-6571-9807
◯ https://loop.frontiersin.org/people/626180
R⁶ https://www.researchgate.net/profile/Essam_Rashed
📝 https://publons.com/researcher/1176091/essam-rashed/
G https://scholar.google.com/citations?user=ihTTcfkAAAAJ
🏛 https://www.scopus.com/authid/detail.uri?authorId=24484116300

## Short Biography

❯ Essam Rashed received his Ph.D. (Eng.) in Computer Science from the University of Tsukuba, Japan in 2010. He was a JSPS Research Fellow at the University of Tsukuba (2010-2012). He served as Assistant/Associate/Full Professor of Computer Science at the Department of Mathematics, Faculty of Science, Suez Canal University from 2010. He was a research Professor at Nagoya Institute of Technology, Japan (2018-2021). Currently, he is a Professor at the Graduate School of Information Science, University of Hyogo, Japan. His research interests include medical image processing, data science, artificial intelligence and pattern recognition. Dr. Rashed is IEEE Senior Member and Associate Editor of the IEEE Access. In 2024, he was a recipient of the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (Development Category), Japan. He participated as a PI and CoI for several external funded projects.

## Education

| | | |
|---|---|---|
| 2007 - 2010 | ❯ | **Ph.D. (Eng.) Computer Science** <br> *Graduate School of Systems and Information Engineering, University of Tsukuba, Japan* |
| 2000 - 2002 | ❯ | **M.Sc. Computer Science** <br> *Faculty of Science, Suez Canal University, Egypt* |
| 1994 - 1998 | ❯ | **B.Sc. Scientific Computing** (Very Good with Honors) <br> *Faculty of Science, Suez Canal University, Egypt* |

## Academic Society Memberships

| | | |
|---|---|---|
| Jan. 2022 | ❯ | *Co-Chairman of WG6,* **IEEE Int. Committee on Electromagnetic Safety (ICES)** |
| Aug. 2019 | ❯ | *Affiliated Member,* **IEEE SPS Computational Imaging Technical Committee** |
| | ❯ | *Co-Chairman of TF2,* **IEEE Int. Committee on Electromagnetic Safety (ICES)** |
| Apr. 2019 | ❯ | *Senior Member,* **IEEE** *(membership from 2007)* |
| Jan. 2019 | ❯ | *Member,* **IEEE Signal Processing Society** |
| Aug. 2012 | ❯ | *Member,* **JSPS Alumni Association in Egypt (JSPSAAE)** |

## Scholarships

| | | |
|---|---|---|
| Aug. 2014 | ➡ | **National Postdoctoral Fellowship,** *Ministry of Higher Education, Egypt* |
| Jan. 2010 | ➡ | **JSPS Postdoctoral Fellowship,** *Japan Society for the Promotion of Science, Japan* |
| Aug. 2006 | ➡ | **National Doctoral Scholarship,** *Ministry of Higher Education, Egypt* |

## Awards

**Nov. 2024** ➡ **Best Technical Paper Award,** *IEEE International Conference on Future Machine Learning and Data Science (FMLDS), Sydney, Australia*
🔗 `https://www.fmlds.org/`

**Aug. 2024** ➡ **World's Top 2% Scientist,** *Stanford University List for August 2024*
🔗 `https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/7`

**July 2024** ➡ **Outstanding Research Activity Award,** *University of Hyogo*
兵庫県立大学・令和6年度最優秀研究活動賞
🔗 `https://uh-sangaku.jp/awards/`

**Apr. 2024** ➡ **Science and Technology Award (Development Category),**
*The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology, Japan*
Awardees: A. Hirata, S. Kodera, and E. A. Rashed
(For the development of a system for predicting the number of people infected with new infectious diseases and the number of deaths)

➡ **Best Paper Award,** *2024 9th International Conference on Multimedia and Image Processing (ICMIP 2024)*
🔗 `https://www.icmip.org/index.html`

➡ **IJERPH Outstanding Special Issue Award,**
Guest Editors: S. Kodera and E. A. Rashed
🔗 `https://www.mdpi.com/journal/ijerph/awards`

**Aug. 2022** ➡ **Certificate of Silver Distinguished Reviewer,** *IEEE Transactions on Medical Imaging*
🔗 `https://bit.ly/3wzUvyg`

**Dec. 2021** ➡ **Editor's Choice Article (DOI: 10.3390/ijerph18115736),** *IJERPH, MDPI*
🔗 `https://www.mdpi.com/journal/ijerph/editors_choice`

**Nov. 2021** ➡ **2021 Faculty Award of Excellence,** *Nagoya Institute of Technology, Nagoya, Japan*
(For the achievements in prediction of new coronavirus transmission considering human flow and seasonality, Recipients: Hirata, Rashed, Kodera)

➡ **2021 Applied Research Award,** *Suez Canal University, Egypt*
(For paper, Rashed, et al., IEEE Trans. Med. Imag., 2020)

**Nov. 2020** ➡ **2021 Faculty Award of Excellence,** *Nagoya Institute of Technology, Nagoya, Japan*
🔗 `https://bit.ly/3lKPmgw`

**Mar. 2020** ➡ **Best Presentation Award,** *IEICE Electronics Simulation Technology Society, Japan*
🔗 `https://www.ieice.org/es/est/award/index_en.html`

**June 2019** ➡ **Excellent Paper Award,** *EMC2019 conference, Sapporo, Japan*
🔗 `https://www.ieice.org/~emc2019/PDF/EMC2019Awardee.pdf`

**Mar. 2019** ➡ **Egypt Innovate IBTIECAR Award,** *Second Place in Emerging Technologies Track, Technology Innovation and Entrepreneurship Center (TIEC), Cairo, Egypt*
🔗 `https://bit.ly/3hWnV28`

**Dec. 2018** ➡ **Best Paper Award,** *IEEE CIBEC, Cairo, Egypt (awarded to Ph.D. student Ms. Mona Selim)*

**Jan. 2018** ➡ **Scientific Research Excellency Award,** *Suez Canal University, Egypt*

**Feb. 2017** ➡ **Outstanding Reviewer,** *Biomedical Signal Processing and Control, Elsevier*
🔗 `https://bit.ly/3nYl1hh`

# Awards (continued)

| | | |
|---|---|---|
| Aug. 2016 | ➲ | **Outstanding Poster Award,** *SPIE Develop. in X-ray Tomography X Conf., San Diego, USA* |
| | 🔗 | https://bit.ly/2W4tZ0L |
| Mar. 2013 | ➲ | **Best Presentation Award,** *YRC2013 Conference, Suez Canal University, Egypt* |
| | 🔗 | https://bit.ly/3CE4ymn |
| Aug. 2012 | ➲ | **Best Presentation Award,** *The Japanese Society of Medical Imaging Technology* |
| | 🔗 | https://bit.ly/3i0j7Zs |
| Mar. 2010 | ➲ | **Chairman Award,** *Department of Computer Science, University of Tsukuba, Tsukuba, Japan* |
| | 🔗 | https://bit.ly/3AAGU9X |
| | ➲ | **Best Research Project,** *Program for Development of ICT Solution Architect, University of Tsukuba, Japan* |
| Aug. 2008 | ➲ | **Best Presentation Award,** *The Japanese Society of Medical Imaging Technology* |
| | 🔗 | https://bit.ly/3zLwnrj |
| Oct. 1998 | ➲ | **Outstanding Student Medal and Honor Degree,** *Suez Canal University, Egypt* |
| 1994 – 1998 | ➲ | **Merit Scholarship for Undergraduate Student,** *Suez Canal University, Egypt* |

# Selected Publications

*Peer-reviewed Journal Articles*

1. Seshimo, H., & **Rashed**, E. A. (2024). Segmentation of low-grade brain tumors using mutual attention multimodal MRI. *Sensors*, *24*, 7576. **(IF23=3.4)**. 🔗 https://doi.org/10.3390/s24237576

2. Zafari-Ghadim, Y., **Rashed**, E. A., Mohamed, & Mabrok, M. (2024). Transformers-based architectures for stroke segmentation: A review. *Artificial Intelligence Review*, *57*, 307. **(IF23=10.7)**. 🔗 https://doi.org/10.1007/s10462-024-10900-5

3. Hussain, W., Mabrok, M., Gao H., F. A., Rabhi, & **Rashed**, E. A. (2024). Revolutionising healthcare with artificial intelligence: A bibliometric analysis of 40 years of progress in health systems. *Digital Health*, *10*. **(IF23=2.9)**. 🔗 https://doi.org/10.1177/20552076241258757

4. Mohamed, E. A., Gaber, T., Karam, O., & **Rashed**, E. A. (2022). A novel CNN pooling layer for breast cancer segmentation and classification from thermograms. *PLOS One*, *17*, e0276523. **(IF23=2.9)**. 🔗 https://doi.org/10.1371/journal.pone.0276523

5. **Rashed**, E. A., Kodera, S., & Hirata, A. (2022). COVID-19 forecasting using new viral variants and vaccination effectiveness models. *Computers in Biology and Medicine*, *149*, 105986. **(IF23=7.0)**. 🔗 https://doi.org/10.1016/j.compbiomed.2022.105986

6. Hirata, A., Kodera, S., Diao, Y., & **Rashed**, E. A. (2022). Did the Tokyo Olympic Games enhance the transmission of COVID-19? interpretation with machine learning. *Computers in Biology and Medicine*, *146*, 105548. **(IF23=7.0)**. 🔗 https://doi.org/10.1016/j.compbiomed.2022.105548

7. Nishimura, T., **Rashed**, E. A., Kodera, S., Shirakami, H., Kawaguchi, R., Watanabe, K., Nemoto, M., & Hirata, A. (2021). Social implementation and intervention with estimated morbidity of heat-related illnesses from weather data: A case study from Nagoya City, Japan. *Sustainable Cities and Society*, *74*, 103203. **(IF23=10.5)**. 🔗 https://doi.org/10.1016/j.scs.2021.103203

8. **Rashed**, E. A., & Hirata, A. (2021a). One-year lesson: Prediction of COVID-19 positive cases with meteorological data and mobility estimate in Japan. *International Journal of Environmental Research and Public Health*, *18*, 5736. **(IF21=4.614)** 🏆 Editor's Choice Article. 🔗 https://doi.org/10.3390/ijerph18115736

9. **Rashed**, E. A., Kodera, S., Shirakami, H., Kawaguchi, R., Watanabe, K., & Hirata, A. (2021). Knowledge discovery from emergency ambulance dispatch during COVID-19: A case study of Nagoya City, Japan.

*Journal of Biomedical Informatics, 117*, 103743. **(IF23=4.0)**.
🔗 https://doi.org/10.1016/j.jbi.2021.103743

**10**  **Rashed**, **E. A.**, Gomez-Tames, J., & Hirata, A. (2021). Influence of segmentation accuracy in structural MR head scans on electric field computation for TMS and tES. *Physics in Medicine & Biology, 66*(6), 064002. **(IF23=3.3)**. 🔗 https://doi.org/10.1088/1361-6560/abe223

**11**  **Rashed**, **E. A.**, Gomez-Tames, J., & Hirata, A. (2020a). Deep learning-based development of personalized human head model with non-uniform conductivity for brain stimulation. *IEEE Transactions on Medical Imaging, 39*(7), 2351–2362. **(IF23=8.9)**. 🔗 https://doi.org/10.1109/TMI.2020.2969682

**12**  **Rashed**, **E. A.**, Gomez-Tames, J., & Hirata, A. (2020b). End-to-end semantic segmentation of personalized deep brain structures for non-invasive brain stimulation. *Neural Networks, 125*, 233–244. **(IF23=6.0)**. 🔗 https://doi.org/10.1016/j.neunet.2020.02.006

**13**  **Rashed**, **E. A.**, Diao, Y., & Hirata, A. (2020). Learning-based estimation of dielectric properties and tissue density in head models for personalized radio-frequency dosimetry. *Physics in Medicine & Biology, 65*(6), 065001. **(IF23=3.3)**. 🔗 https://doi.org/10.1088/1361-6560/ab7308

**14**  **Rashed**, **E. A.**, Gomez-Tames, J., & Hirata, A. (2019a). Development of accurate human head models for personalized electromagnetic dosimetry using deep learning. *NeuroImage, 202*, 116132. **(IF23=4.7)**.
🔗 https://doi.org/10.1016/j.neuroimage.2019.116132

**15**  **Rashed**, **E. A.**, & Kudo, H. (2016a). Probabilistic atlas prior for CT image reconstruction. *Computer Methods and Programs in Biomedicine, 128*, 119–136. **(IF23=4.9)**.
🔗 https://doi.org/10.1016/j.cmpb.2016.02.017

**16**  **Rashed**, **E. A.**, al-Shatouri, M., & Kudo, H. (2015). Sparsity-constrained three-dimensional image reconstruction for C-arm angiography. *Computers in Biology and Medicine, 62*, 141–153. **(IF23=7.0)**.
🔗 https://doi.org/10.1016/j.compbiomed.2015.04.014

**17**  **Rashed**, **E. A.**, & Kudo, H. (2012a). Statistical image reconstruction from limited projection data with intensity priors. *Physics in Medicine & Biology, 57*(7), 2039–2061. **(IF23=3.3)**.
🔗 https://doi.org/10.1088/0031-9155/57/7/2039

**18**  **Rashed**, **E. A.**, Ismail, I. A., & Zaki, S. I. (2007). Multiresolution mammogram analysis in multilevel decomposition. *Pattern Recognition Letters, 28*(2), 286–292. **(IF23=3.9)**.
🔗 https://doi.org/10.1016/j.patrec.2006.07.010

*Updated: January 2, 2025*