

Bell Raj Eapen, MD, PhD

Gen AI / Digital Health Consultant

Assistant Professor of Information Systems, University of Illinois Springfield

[GitHub](#) | [Blog](#)

Profile

Physician with a PhD in Information Systems from McMaster University, blending clinical expertise with advanced skills in healthcare analytics, generative AI, multimodal machine learning, and FHIR-based systems. Experienced in academia, clinical practice, and R&D leadership, with a focus on delivering working prototypes, especially for under-resourced healthcare settings.

Professional Experience

R&D Lead Engineer *Mayo Clinic, Jacksonville, FL, USA 2022 – 2024* - Led cloud architecture for Generative AI and multimodal ML using FHIR. - Developed and deployed healthcare AI prototypes for clinical workflows.

Research Fellow *Data-Intel Lab, McMaster University, Hamilton, Canada 2018 – 2021* - Conducted research on clinical decision support systems and health data science.

Specialist Dermatologist *Kaya Clinic, Dubai, UAE 2007 – 2013* - Practiced as a specialist dermatologist, managing diverse patient cases.

Assistant Professor (Dermatology) *Sri Ramachandra University & Research Institute, India 2002 – 2004* - Taught dermatology and supervised clinical training.

Education

Postdoctoral Fellowship (Health Data Science) Centre for Transfusion Research, McMaster University, Canada — 2022 - Designed architecture for the TRUST database to support transfusion research.

PhD (Information Systems) McMaster University, Canada — 2021

MSc in eHealth McMaster University, Canada — 2015

MD (Dermatology) Kasturba Medical College, Manipal, India — 2000

MBBS St. Johns Medical College, Bangalore, India — 1997

Technical Skills

- **Programming & Frameworks:** Python, JavaScript, Java, OpenMRS
 - **Healthcare Standards:** FHIR, OMOP, mHealth, Clinical Decision Support
 - **AI/ML:** Generative AI, Multimodal ML, Cloud Architecture
 - **Open Source Libraries Maintained:**
 - Python (PyPI): pyomop, FHIRy,
 - JavaScript (npm): FHIRFormJS,
 - Java (Maven): ckblib
 - .NET (NuGet): omopcdm1ib
 - OpenMRS EMR: openmrs-module-nuform
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Selected Publications

(Full list available on [eHealth Blog](#))

- Eapen, B.R., Baba, V.V., & Sohail, M. (2023). *Evidence-Based Management: A Design Theory, Template, and Technology for a Knowledge Delivery Platform*. **Metamorphosis**, **22(1)**, 73-84.
 - Eapen, B.R., Kaliyadan, F., & Ashique, K.T. (2022). *DICODerma: A Practical Approach for Metadata Management of Images in Dermatology*. **J Digit Imaging**.
 - Eapen, B.R. (2020). *Artificial intelligence in dermatology: A practical introduction to a paradigm shift*. **Indian Dermatol Online J**, **11**, 881-9.
 - Eapen, B.R., Archer, N., & Sartipi, K. (2020). *LesionMap: A Method and Tool for the Semantic Annotation of Dermatological Lesions*. **JMIR Dermatology**.
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Awards & Memberships

- Member, American Medical Informatics Association (AMIA)
 - Contributor to multiple open-source healthcare projects
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Consulting

- Specializes in rapid prototyping for healthcare AI solutions.
 - Offers pro bono consulting for projects serving underprivileged communities.
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