

**Dr. Dennis Robert**

**Clinical Research Scientist, [Qure.ai](#)**

**Academic Qualifications:** MBBS, MMST

**Expertise:** AI/ML CAD & RWD Biostatistics, Clinical Data Science

**Work Location:** Bangalore, India



**CRAN R Package Author**

**Package Name:** [autoCovariateSelection](#)

**Package Name:** [MRMCsamplesize](#)

**Phone:** +91-9611981003

**E-mail:** dennis.robert.nm@gmail.com

## PROFESSIONAL AND ACADEMIC SUMMARY

### Profile and Years of Experience

- **Physician turned Data Scientist** with an overall experience of 11+ years
- 8+ years of industrial experience spanning Software as a Medical Device (SaMD) industry, Pharmaceutical industry and Healthcare IT consulting industry
- 3 years of experience in General Clinical Practice
- Experience as independent contributor and people manager
- **MBBS** (Bachelor of Medicine and Surgery) graduate with a post-graduation in Medical Science & Technology (**MMST**) focusing on Biostatistics and Computational Epidemiology

### Medical AI/ML Experience

- **Research Protocol Design & Statistical Analysis** for AI/ML based CAD evaluation studies
- Experienced in AI/ML model development using structured Real-World-Data (**RWD**)
- Clinical Performance Assessment of AI/ML CAD devices for FDA 510 (k) submissions

### RWD Observational Data Analysis Experience

- RWD (Truven, Optum, CPRD) analysis – descriptive and inferential statistical analysis
- **Comparative Effectiveness Research** (CER), **Rapid Data Queries** (RDQ)

### Programming

- R
- Python

### Major Academic Achievements

- **Khorana Scholarship** recipient
- **Kerala State Rank 4 (All India Rank 144)** for the All-India Pre-Medical Entrance Examination (AIPMT), the most competitive medical entrance examination in India

## SKILLS

### Clinical Data Science, Biostatistical, Technical (Programming) and Functional Skills

- **Biostatistics**
  - Statistical Analysis Plan (SAP) development
  - Multi-Reader Multi-Case (MRMC) study design and statistical modeling
  - Standalone performance analysis of AI/ML and CAD devices
  - Comparative Effectiveness Research (CER) using RWD
  - Confounder adjustment in RWD studies (matching, HDPS algorithm)
  - Survival (Time-to-Event) analysis
- **Classical Machine Learning**

Source data type: Structured patient level clinical data

  - Logistic & Regularized Regression methods
  - Random Forests
  - Unsupervised learning (clustering)
- **Deep Learning**

Source data type: Structured patient level clinical data

  - Feed-Forward deep neural networks
  - RNN & LSTM (Project Experience)
- **Epidemiology**
  - Clinical protocol study design for AI/ML (CAD) studies
- **Technical:**
  - R (Expert)
  - sparklyr (Project experience)
  - Python (Project experience)
  - Impala/SQL (Project experience)
- **Functional:**
  - Broad medical domain knowledge
  - Real-World-Data (Truven, Optum, CPRD, OMOP CDM)
  - Medical Ontologies (ICD, NDC, LOINC, CPT, HCPCS, SNOMED, MedDRA, CPRD Read)

### Soft Skills

- People management (led a 5-member team of RWD analysts, data scientists and clinical coder)
- Collaborative ways of working with multi-disciplinary cross-functional teams
- Scientific/technical oral presentations

### Professional Experience

Organization	Designation	Timeline
qure.ai	Clinical Research Scientist	Aug 2022 – Present
GlaxoSmithKline	RWD Manager – Vaccines and Data Science	Nov 2021 – Aug 2022
Deloitte	Senior Clinical Data Scientist	Nov 2015 – Jun 2021
ResMed	Clinical Specialist	Dec 2014 – Oct 2015
IRCAD Taiwan	Research Fellow (Contract)	Jun 2014 – Nov 2014
IIT Kharagpur	Medical Officer, BC Roy Technology Hospital	Jul 2011 – May 2014

## Education

Institution	Degree	Timeline
IIT Kharagpur	MMST (Masters in Medical Science and Technology)	Jul 2011 - Jul 2014
Govt. Medical College Kottayam	MBBS (Bachelor of Medicine and Surgery)	Jun 2003 - Feb 2010

## Academic and Professional Awards and Achievements

### Academic

- ❖ **Gold Medalist:** Topmost rank in institute in first attempt for All India Pre-Medical Entrance Test (**All India Rank 144, Kerala State Rank 4**). Ranked 144 among more than hundred thousand candidates from all over India in AIPMT exam, the then most competitive and objective medical entrance examination in India.
- ❖ Awarded **Khorana Scholarship** for doing summer internship in University of Wisconsin-Madison, USA in Department of Biostatistics and Medical Informatics
- ❖ Secured 3rd Rank in MG University Kerala for the First Professional MBBS examination
- ❖ Student Paper Competition Finalist in the IEEE EMBS Special Topic Conference on Point-of-Care Healthcare Technologies 2013

### Professional

- ❖ Golden Helix Award for Innovation and Outstanding Performance in Deloitte (2020)
- ❖ Rated 1 (highest rating) for best performance for two consecutive times in 2017 and 2018 in Deloitte
- ❖ Received Spot Awards, Bronze and Silver awards for performance in projects in Deloitte and GlaxoSmithKline multiple times

# Publications

## Journal Publications

1. **Dennis Robert**, Saigopal Sathyamurthy, Preetham Putha. *MRMCsampleSize: An R Package for Estimating Sample Sizes for Multi-Reader Multi-Case Studies*. medRxiv. Published online 2023. doi:10.1101/2023.09.25.23296069 [PREPRINT]
2. Hariprasad T, **Dennis Robert**, Anish TS. *A Methodological Rectification in the Global Hunger Index*. Econ Polit Wkly. 2022;57(14):14-17.
3. Hariprasad T, Anish TS, Retheesh K Haridasan, **Dennis Robert**, et.al. *Global covid-19 transmission and mortality - influence of human development, climate and climate change on early phase of the pandemic*. Earth Sp Sci Open Arch. Published online 2021:26. doi:10.1002/essoar.10505823.1
4. Bikas K Arya, Sangeeta Das Bhattacharya, Catherine Sutcliffe, Swapan Kumar Niyogi, Subhashish Bhattacharyya, Hemram S, William Moss, Sameeran Panda, Ranjan Saurav Das, Mandal S, **Dennis Robert**, Ray P. *Impact of Haemophilus influenzae Type B Conjugate Vaccines on Nasopharyngeal Carriage in HIV-infected Children and Their Parents From West Bengal, India*. Pediatr Infect Dis J. 2016;35(11):e339-e347. doi:10.1097/INF.0000000000001266
5. Bikas K Arya, **Dennis Robert**, Sangeeta Das Bhattacharya, Jayanta Mukhopadhyay. *A framework for web based geographical information systems for country wide antimicrobial resistance monitoring*. (2013) Health Policy and Technology, 2 (2) , pp. 85-93

## Conference Presentations

1. Abhishek Patil, **Dennis Robert**, Charu Arora, Syed Pasha, Anshul Chauhan, Anagh Purkar, Anshul Kumar Singh, Saigopal Sathyamurthy, Preetham Putha, Aditya Daftary. *Impact of an AI-based workflow in interpretation of chest radiographs*. Oral Presentation, RSNA, November 2023
2. Emiliano Garza, Mannudeep Kalra, **Dennis Robert**, Sai Kiran, Charu Arora, Manoj Tadeipalli, Preetham Putha et. al. *Autonomous AI-based CXR interpretation for predicting congestive heart failure: A multicenter study*. Oral Presentation, RSNA, November 2023.
3. **Dennis Robert**. *An R Package for Estimating Sample Sizes for Multi-Reader Multi-Case (MRMC) Studies*. Poster Presentation, R/Medicine, June 2023.
4. Souvik Mandal, **Dennis Robert**, Rohit Chouhan, Prakash Vanapalli, Vikash Challa, Saigopal Sathyamurthy, Amit Chouksey, Preetham Putha, Ankit Modi. *Using an artificial intelligence algorithm to improve radiologists' performance in detecting pulmonary nodules in chest-CT scans: a multi-reader multi-case study*. Oral presentation, European Congress of Radiology (ECR) 2023, Vienna, March 2023.
5. **Dennis Robert**, Smriti Ridhi, Pitamber Sore, Saniya Pawar, Preetham Putha. *Performance comparison of an artificial intelligence-based algorithm between digital-ray images and mobile photos of x-ray films in detecting signs of tuberculosis*. Oral Presentation, National Conference of Tuberculosis and Chest Diseases (NATCON 2022), Agra, February 2023.
6. Kristin Feeney, **Dennis Robert**, Prerna Patil, Sergey Charkin, Dan Housman, Yuval Koren, Xia Haiping, Jinlei Liu. *Building Deep Learning Models with the OMOP CDM*. Poster, 2017 OHDSI Symposium, October 2017.
7. **Dennis Robert**, Bikas K Arya, Mausom Mallick, Sangeeta Das Bhattacharya, Swapan Kumar Niyogi, Shekhar Chakrabarty, Sutapa Mandal, Subhashish Bhattacharyya. *Association between baseline plasma HIV viral load and nasopharyngeal pneumococcal colonization in children with HIV infection*. Poster presentation in 9th ISPPD, March 2014.
8. Bikas K Arya, Sangeeta Das Bhattacharya, Swapan Kumar Niyogi, Subhashish Bhattacharyya, Sutapa Mandal, **Dennis Robert**, Ranjan Saurav Das. *Pneumococcal carriage in HIV infected mothers and children in West Bengal*. Poster, 9th International Symposium on Pneumococci and Pneumococcal Diseases, March 2014.
9. Bikas K Arya, **Dennis Robert**, Sangeeta Das Bhattacharya, Jayanta Mukhopadhyay. *A framework for web based geographical information systems for country wide antimicrobial resistance monitoring*. Oral Presentation, IEEE PoCHT, January 2013.