


Justin Millar

Quantitative Epidemiologist

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 justinmillar.com

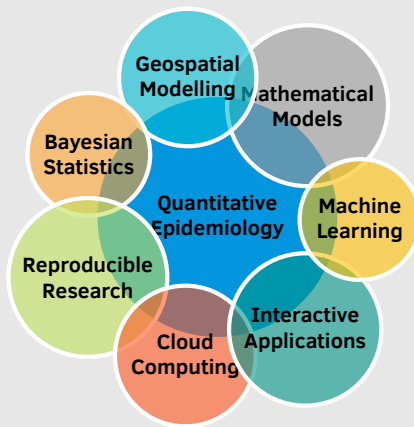
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 [/in/justinjmillar](https://www.linkedin.com/in/justinjmillar)

 [justinmillar](https://github.com/justinmillar)

Skills

Research



Programming

R • Git • Shiny • INLA • SQL • GIS

Python • PyTorch • GCP • TMB

Stan • TensorFlow • C++ • \LaTeX

Teaching

University of Oxford

IT Services: R programming

University of Florida

STA 6093: Applied Statistics

FOR 6934: Appl. Bayesian Statistics

University of Mississippi

BISC 333: Advanced Microbiology

Michigan State University

LB 494: Applied Research Techniques

LB 145: Cell and Molecular Biology

Full C.V. available at:

www.justinmillar.com/cv.pdf

Education

2019 - Pres. **Post-doc. - Geospatial Epidemiology** University of Oxford
Oxford Big Data Institute · Malaria Atlas Project

2014 - 2019 **Ph.D. - Epidemiology** University of Florida
Emerging Pathogens Institute · Informatics Institute

2012 - 2013 **M.Sc. - Biology** University of Mississippi

2007 - 2011 **B.S. - Ecology and Evolution** Michigan State University

Selected Publications

Millar, J.J., P. Psychas, P. Amratia, B. Abuaku, C. Ahorlu, K. Koram, S. Opong, and D. Valle. 2018. "Detecting local risk factors for residual malaria in northern Ghana using Bayesian model averaging". *Malaria Journal* 17:343.

Millar, J.J., K.B. Toh, D. Valle. 2020. "To screen or not to screen: an interactive framework for comparing cost-effectiveness of mass screening and treatment of malaria." *BMC Medicine*. 18(1), 1-14.

T.C.D. Lucas, et al. 2020. Improving disaggregation models of malaria incidence by ensembling non-linear models of prevalence. *Spatial and Spatio-temporal Epidemiology*, p.100357.

Research Experience

2019 - Pres. **Postdoctoral Research Scientist** University of Oxford

- Developed a multi-metric approach for high resolution geospatial modelling as part of the WHO's "High Burden to High Impact" malaria initiative, using household surveys (DHS/MIS) and health facility case data (DHIS2), which estimates malaria-attributable fever and coincidence infection rates
- Designed a reproducible and scalable pipeline for exploratory analysis, data pre-processing, modelling fitting, validation, and output reporting, to be run either locally or on cloud services (e.g., GCP)
- Prepared visualizations, dashboards, and interactive applications for WHO, partner institutions, and local stakeholders for data-driven decision guidance

2014 - 2019 **PhD. Graduate Research Assistant** University of Florida

- Dissertation:** Development of Bayesian statistical frameworks and decision support tools for the management of early childhood malaria
- Adapted a [novel approach for detecting malaria risk factors using Bayesian model averaging](#), for fitting semi-parametric, fully interpretable risk models which account for selection uncertainty
 - Analyzed the impact of local health facilities on early childhood malaria in northern Ghana, created additive model to optimize location of new health facility, and [developed web-based application](#) to provide real-time projections on cases and disease prevalence

2012 - 2013 **MSc. Graduate Research Assistant** University of Mississippi

- Thesis:** Bacterial community biogeography and nutrient processing throughout the Mississippi River network
- Organized and implemented NSF-funded project on microbial biogeography and nutrient processing throughout the Mississippi River network, which consisted of planning two extended fieldwork periods, transporting and piloting motor- and man-powered small watercraft, and daily setup of lab equipment at remote locations
 - Performed microbial ecological lab procedures including enzyme assays, DNA extraction, PCR, DGGE, and bioinformatics analyses