Yalemzewod Gelaw

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SUMMARY

I have over seven years of experience as an Epidemiologist and Public Health Researcher in academia and public services. My skills and experience include managing and computing complex routine healthcare and survey data and proficient in tools such as R, SQL, Python, and Power BI. I have substantial experience in managing complex datasets, developing pipelines, performing data integration, and predictive modelling, reporting, and publishing to support strategic health policy and planning decisions. In my recent work experience as a data scientist and researcher, I managed and undertake complex epidemiological projects and built strong stakeholder engagement.

EXPERIENCE

Senior Data Scientist | HQIU, WA Department of Health |January 2021 - Present, Perth, AU

- Managed and analyzed complex big and longitudinal (in terabytes) cloud-based data to provide a better understanding of cancer patients journey related to patient safety and clinical quality.
- Extract Transform and managed large hospital data from Snowflakes and SQL server and create data flow.
- Developed reports and dashboard using Power BI and presents to stakeholders to inform decision-making.

Epidemiologist | Telethon Kids Institute |May 2021 – November 2023, Perth, AU

- Developed four pipelines for the annual production of global malaria burden estimates.
- Managed climate and health service datasets (in terabytes) to predict malaria risk transmission with the Bayesian Framework.
- Designed, built, and maintained automated systems for 4 surveys and 5 surveillance data gathering, transforming and integration to reduce time and effort.
- Presented and published outputs in scientific publications, reports, and educational materials.
- Collaborated with international stakeholders and provided support in cleaning and utilizing local data gathered from 3,385 health centers for decision-making.
- Involved in training manual preparation and conducted a training session on data management and spatial analysis for 50+ data analysts and program officers.
- Led data extraction, cleaning, manipulation, and cross-validation for 42 data points.
- Provided R-programming technical support to 4 research assistants, improving team productivity by preparing guide scripts.

Epidemiologist | University of New South Wales |March 2020 - May 2021, Sydney, AU

- Developed, documented, and implemented data cleaning, analytics, and reporting for 5 projects with 4 years of longitudinal data points.
- Collaborated and led data cleaning, transformation, data integration and analysis of 4 datasets, resulting in successful publications.
- Applied decision tree analysis using a machine learning algorithm to identify the influential risk factor for socio-emotional trajectories of children in NSW out-of-home care services using the *R caret* package.
- Provided statistical support to 8 clinicians and 3 PhD students on how to utilize R-programming for hospital record data management, analysis, and reporting.

Epidemiologist | Queensland Department of Health | September 2019 - February 2020, Brisbane, AU

- Analyzed routine surveillance data to provide spatial and temporal patterns of weekly reportable disease for program recommendations.
- Offered analytical support for communicable disease unit project planning and program evaluation.
- Conducted monitoring and surveillance activities (3 outbreaks), including data collection, management, and analysis.
- Utilized ETL process to extract reportable diseases, examined and visualized data to identify patterns on maps for monitoring.

Lecturer | The University of Gondar | September 2013 - July 2016, Gondar, Ethiopia

- Delivered face-to-face biostatistics courses to undergraduate Nursing, Environmental Health, and Medicine (400+) and Master of Public Health Students (200+)
- Mentored 15 Master of Public Health students and 20 Bachelor of Science (Nursing and Medicine) students.
- Led and coordinated 100+ health science students in 4 round field community professional practices.

EDUCATION

PhD in Epidemiology and Biostatistics, The University of Queensland, Brisbane, Australia (2016 – 2020)
Thesis: Towards sustainable TB control in Ethiopia–profiling high-risk geographical areas using spatial modelling
Key skills developed: Mathematical modelling, data visualization, statistics, machine learning, spatial modelling, meta-regression, predictive analysis, and scientific writing.

MPH in Epidemiology and Biostatistics, The University of Gondar, Gondar, Ethiopia (2011 – 2013)

Thesis: Effect of residence on mothers' health care seeking behaviour for common childhood illness in Northwest Ethiopia: a community-based comparative cross-sectional study.
Key skills developed: Field data collection, Data entry, EpiInfo, REDCap, Data analysis, survey data management, and scientific writing.

BSc in Environmental Health Science, Debub University, Hawassa, Ethiopia (2002 – 2006)
Key skills developed: risk assessment, surveillance, data collection and community engagement.

SKILLS

- Programming: R and Python
- Statistics, machine learning, data ingestion and modelling
- Data management & analysis: RStudio, Panda, SQL
- Data warehousing (snowflake)
- Data visualization: Power BI, MS Excel, Ggplot2, R-shiny, seaborn, matplotlib
- Communication & Negotiation
- Structural Thinking & Problem-Solving
- Scientific writing
- Leadership

PUBLICATIONS

Over 40 peer-reviewed publications, with 15 first and senior-author papers. Full list available on Google Scholar.
For conference presentations, grants and awards please review my webpage.

PROJECT PORTFOLIO

MS Excel dashboard
R and Python programming for Data Science (GitHub)