

Facilitating the discovery of epidemiology tools

Stage 1: Thematic list

The image displays a collection of seven GitHub repository cards, each representing a different project related to epidemiology and infectious disease modeling. Each card includes the repository's logo, title, a brief description, and key statistics such as stars, forks, and downloads.

- AMBR - Antimicrobial Resistance Data Analysis:** A Python package for simplifying and standardizing antimicrobial resistance data analysis. It features functions to simplify data analysis and work with microbial and antimicrobial properties using evidence-based methods. The repository has 11.87 stars, 93 stars, 6 dependents, and 182 scripts.
- pomp - Statistical Inference for Partially Observed Markov Processes:** Tools for data analysis with partially observed Markov process (POMP) models, including stochastic dynamical systems, hidden Markov models, and nonlinear, non-Gaussian, state-space models. The repository has 11.74 stars, 114 stars, 4 dependents, and 1.3k scripts.
- COVID-19 - COVID-19 Data Hub:** Unified datasets for better understanding of COVID-19. The repository has 11.08 stars, 252 stars, 265 scripts, and 703 downloads.
- EpiNow2 - Estimate Real-Time Case Counts and Time-Varying Epidemiological Parameters:** Estimates time-varying reproduction number, rate of spread, and doubling time using open-source tools. The repository has 15.97 stars, 123 stars, 210 scripts, and 1.1k downloads.
- EpiModel - Mathematical Modeling of Infectious Disease Dynamics:** Tools for simulating mathematical models of infectious disease dynamics, including compartmental models, stochastic individual-contact models, and stochastic network models. The repository has 11.57 stars, 250 stars, 315 scripts, and 1.4k downloads.
- SlimInf - A Framework for Data-Driven Stochastic Disease Spread Simulations:** Provides an efficient and very flexible framework to conduct data-driven epidemiological modeling in realistic large-scale disease spread simulations. The repository has 11.08 stars, 252 stars, 265 scripts, and 703 downloads.

131 R packages by 533 authors

Stage 2: Semantic search

Type your task here

Forecast the flu cases in the next 2 weeks

Search

- Helpful for targeted search of specific tools

Stage 2: Semantic map

- Tools that focus on similar scientific concepts (e.g., EpiEstim & EpiNow2) are located in the same region
- Helpful for undirected exploration

Nearest-neighbour search

1. Collect tool complete documentation and metadata (logo, source location, documentation website, etc.)
2. Build an embeddings database

Projection in 2 dimensions