

# MRtrix3

*a package for the analysis of diffusion MRI data*

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# The software

- Vehicle for dissemination of *our research outputs*
  - *Not* general-purpose implementation of all techniques available in literature
- Written using **C++11, Eigen3, OpenGL, Qt** (with python scripts)
  - To ensure performance and maintainability of code
  - Multithreading primitives for image and stream processing
  - Custom command-line parsing API, also used to generate documentation
    - Ensures consistent behaviour across executables
  - Code designed to be developer-friendly
- Try to **avoid external dependencies**
  - For cross-platform support (GNU/Linux, macOS, MS Windows)
  - For ease of installation
  - Custom python configure & build scripts

# The community

- Website built using **Jekyll on Github**
- Documentation hosted on **readthedocs.org**
  - Part of main git repo to ensure consistency, automatic updating, versioning...
- Forum hosted on **Discourse docker container**
  - Almost 700 registered users
  - *This is our only cost (US\$12pm)*
- **Building community:**
  - Software must have unique selling point
  - Takes a long time and a *lot* of effort...
  - Nurture early adopters
    - Biggest advertising: software used in research presented at conferences, etc.
  - Respectful and honest engagement with all members
  - Workshops viable once critical mass reached.