Data Papers

The International Journal of Robotics Research (IJRR) has been accepting submissions of "Data Papers" since 2009. Data Papers and the associated data sets will be fully peer reviewed as it is the intent of IJRR to produce archival quality data.

Data papers are short (circa 5 – 6 pages) submissions that support and summarize a substantial archival data set that has itself been peer reviewed with the same diligence that regular submissions receive. The contribution is expected to be in the quality and utility of the data to the robotics community.

How to submit Data Papers

In the first instance, anyone interested in submitting a Data Paper should contact one of the Data Paper Editors to discuss their submission:

Tim Barfoot – tbarfoot@utoronto.ca
Paul Newman – pnewman@robots.ox.ac.uk
Nick Roy – nickroy@mit.edu
Siddhartha Srinivasa – siddh@cs.cmu.edu

How to write a Data Paper

Data Papers should be short, around 5 – 6 pages, and will be published in the Journal and made available online on the SAGE website. Attention should be given to the following:

- How the data was captured with all relevant detail (e.g. camera calibrations, sensor coordinates, sensor types, timestamp accuracy)
- How the reader can parse (programatically) and index into the data
- Where appropriate, ground truth data should be provided and details given on how it was obtained
- Where possible, numerical data should be provided in human readable plain text format, images in high quality jpeg or png format. Data papers based on rosbags and other changing binary formats will be returned without review
- The data should be placed in the context of current research making it clear which research field it applies to
- If applicable, a commentary on the data is valued. Discuss aspects of the data (or its interpretation) whose processing is within and outside the state of the art at the time of submission
- The paper should highlight any known issues or obvious difficulties in the data set, e.g. sensor dropout , camera flare
- Authors are encouraged to provide suitable parsing and access tools in the form of Matlab scripts (compatible with 2007 releases) or C/C++ code. In the case of the latter, the source files must be provided and must compile under gcc 4.0 or Visual Studio 6.0 with no external (non-standard) library dependencies. The source code must be cross platform (linux, Win32 and MacOSX)
- Reviewers will be asked to consider the value and quality of the data and not algorithmic novelty
- Papers that seek to describe a new algorithm in conjunction with the data supplied will be considered to be a standard submission with Multimedia (MM) extensions and not a Data Paper

- The paper should be driven from start to end by the desire to make the data used by other authors
- If the submitted data exceeds 200MB, a representative subset of the data should be submitted for review. Authors should indicate how this sample was chosen
- If the authors' submission is intended for an audience/use already addressed by an existing (published) Data Paper, then the authors should be explicit about what shortcomings are addressed by their submission

Review Process

During peer review, the hosting of the datasets should be at the authors chosen site and information of how to access the dataset should be provided alongside the Data Paper. Data papers can be submitted through IJRR's fully web-based system for the submission and review of manuscripts at http://mc.manuscriptcentral.com/ijrr.

Peer Review and hosting Datasets from Data Papers

It is the intent of IJRR to solicit archival quality data, which means that all aspects of the Data Paper and associated dataset will be peer reviewed. Our aim is to provide an archival service to authors, however this is an ongoing process, and while we aim ultimately to host all datasets and their supporting websites, it is anticipated that initially many data papers will refer to websites hosted and author managed.

How to cite Data Papers

Any reference to a Data Paper or associated Dataset should cite the journal article from which the data stemmed, example below:

Journal articles: Authors' last name and initials (year). Title of article. *Name of journal*, volume number(issue number): page numbers.

OR

Featherstone, R. (2005). Efficient factorization of the joint space inertia matrix for branched kinematic trees. *The International Journal of Robotics Research*, 24(6): 487–500.