Bridge Avoidance in River-based Drone Autonomy

Data Collection

What data will you collect or create?

Experimental data pertaining to the evaluation of algorithms for vision-based navigation of drones over rivers. No existing data can be reused. The format of the data will be the numeric results of experiments. These will be stored as human-readable content in standard ASCII format, with use of CSV format whenever it is possible to represent the data as a spreadsheet.

How will the data be collected or created?

The data will be collected through new experiments that will be conducted over the life of the research. The data will be organized by date of experiment, and descriptive names that pertain to the focus of the experiment. README files will be used to provide explanatory information.

Documentation and Metadata

What documentation and metadata will accompany the data?

The documentation will be provided as README files that are included with the data.

Ethics and Legal Compliance

How will you manage any ethical issues?

No ethical issues are anticipated. No sensitive data will be captured. No human subjects are involved.

How will you manage copyright and Intellectual Property Rights (IP/IPR) issues?

The data will be owned by Carnegie Mellon University, to which the PI belongs. The data will be freely published in scholarly papers and made available to other researchers. No data will be restricted for patent purposes.

Storage and Backup

How will the data be stored and backed up during the research?

The data will be stored in files in a shared file system. The servers will be backed up using standard IT practices.

How will you manage access and security?

Per-user access control is provided by the distributed file system in which the data will be stored. Only users with a need to access this data will be provided with permissions to access it. No confidential data of any kind, or personal information of any kind is included in this data.

Selection and Preservation

Which data are of long-term value and should be retained, shared, and/or preserved?

The volume of data involved is likely to be modest: a few hundred megabytes to a few tens of gigabytes. We expect to be able to store all of this data in perpetuity. No confidential or privacy-sensitive information is involved.

What is the long-term preservation plan for the dataset?

The data will be archived in the Andrew File System (AFS) and in cloud storage (Box).

Data Sharing

How will you share the data?

The processed data will be shared in scholarly publications. The raw data will be made available for download via the web.

Are any restrictions on data sharing required?

No restrictions of any kind. No privacy-sensitive or confidential information is involved in this research.

Responsibilities and Resources

Who will be responsible for data management?
The PI is responsible for data management

What resources will you require to deliver your plan?
Nothing beyond what is already available to the PI. Access to AFS and to the cloud (Box) are already available.

Planned Research Outputs

Software - "Open source code for drone navigation"
Source code for navigation of drones

Planned research output details

Title	Type	Anticipated release date	Initial access level	Intended repository(ies)	Anticipated file size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
Open source code for drone navigation	Software	2023-06-29	Open	GitHub		GNU General Public License v2.0 only	None specified	No	No