

The Oxford RobotCar dataset



The Oxford Robotics Institute has compiled a unique dataset through multiple traverses of a route in central Oxford under different conditions in the Oxford RobotCar.

The challenge of long-term localisation

Autonomous vehicle research is critically dependent on vast quantities of real-world data for development, testing, and validation of algorithms prior to deployment. A number of vision-based autonomous vehicle datasets have been released, however, they do not address the main challenges of mobile autonomy.

These challenges include localisation in the same environment under significantly different conditions and mapping in the presence of structural change over time.

The Oxford RobotCar dataset

Researchers from the globally renowned Oxford Robotics Institute have collected more than 20TB images, LiDAR and GPS data by repeatedly traversing a route in central Oxford in the Oxford RobotCar. The data was collected over a period of one year and represents over 1000km of recorded driving.

The resulting unique dataset captures a large range of variation in scene appearance and structure due to:

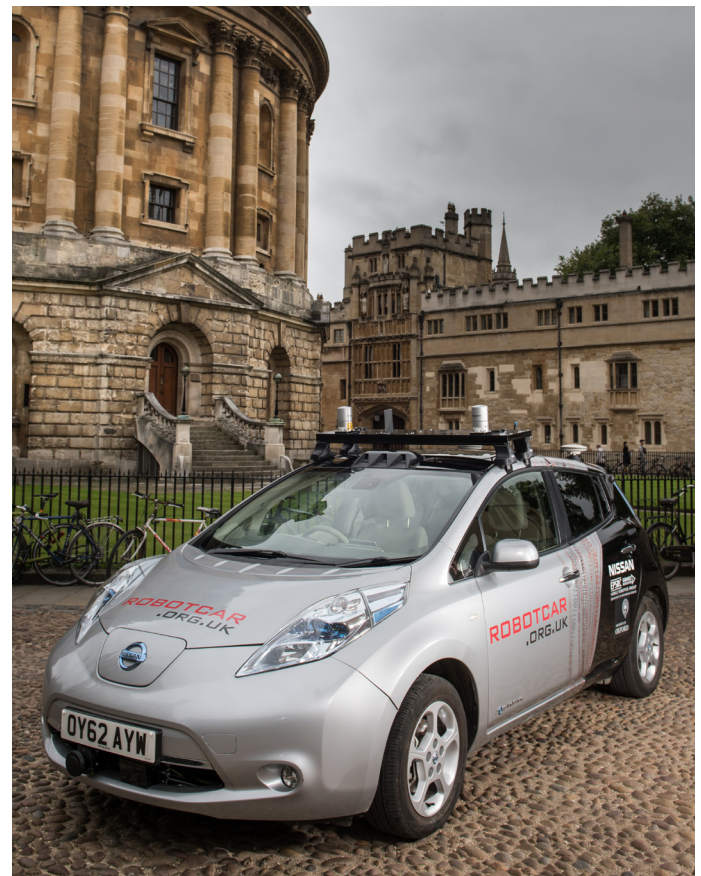
- illumination
- weather
- dynamic objects
- seasonal effects
- construction

The raw recordings from all of the available sensors are included alongside a full set of intrinsic and extrinsic sensor calibrations. MATLAB development tools are additionally included for accessing and manipulating the raw sensor data.

Commercialisation

The Oxford RobotCar dataset offers a unique opportunity for the commercial development and testing of systems capable of long-term localisation in dynamic environments. The dataset is available to license from Oxford University Innovation.

For further information on data collection and utility, please visit http://robotcar-dataset.robots.ox.ac.uk/images/robotcar_ijrr.pdf.



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Technology Transfer from the University of Oxford

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