Abstract. This work describes a method for dense scene reconstruction from video, assuming both the external and internal calibration of camera in each frame is known. The method is modular; in the cases of the well studied subproblems, a description of the corresponding algorithms is provided, and where necessary, we present our novel techniques. The method reconstructs the scene in an iterative manner and is highly adaptable to required precision and resolution of the output. This work is accompanied by a complete open-source implementation of the method described.