

ABSTRACT

In order to perform three-dimensional measurement of an object with high accuracy, a dot pattern is generated by a determination process of determining a reference position according to a rule defined by a Poisson disk sampling algorithm, a selection process of selecting one of a plurality of arrangement patterns indicating at least one or more dot arrangements, an arrangement process of arranging dots based on the arrangement pattern selected for the reference position, and an iterative process of performing the determination process, the selection process, and the arrangement process a plurality of times, a projection device is controlled to project projection light including the dot pattern onto the object, an image capturing device is controlled to image-capture the object onto which the projection light is projected from two directions to acquire two captured images, parallax information is calculated about the acquire two captured images, and a three-dimensional shape of the object is specified based on the calculated parallax information.