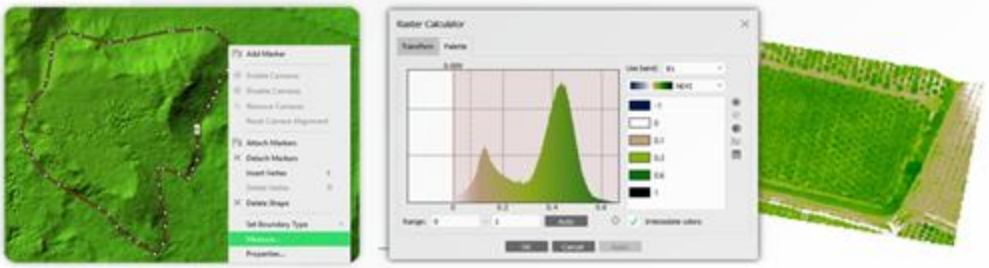
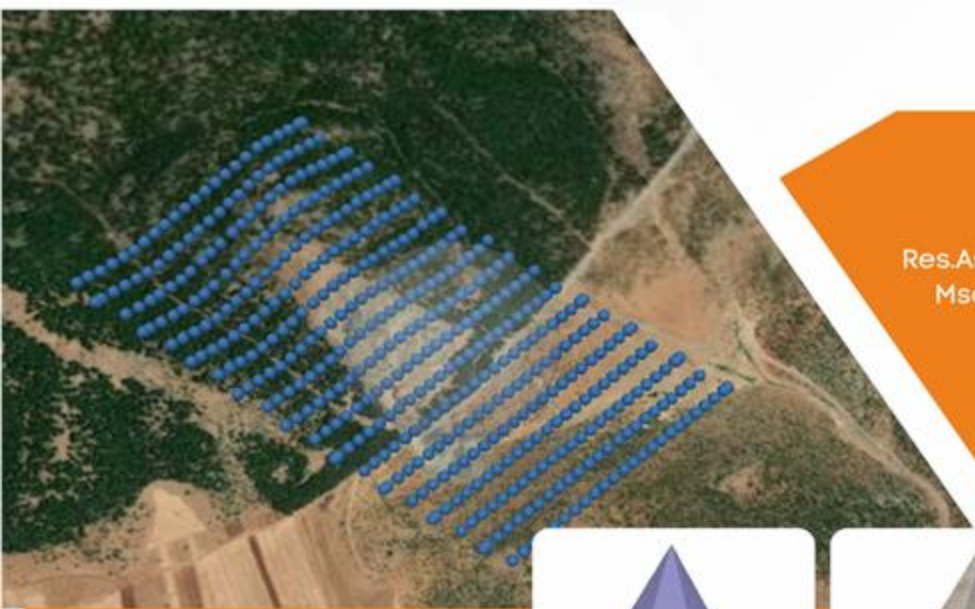
STEP BY STEP

AGISOFT - METASHAPE





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Small Object
Cultural Heritage
Heritage Documentation
DEM
Orthomosaic
Multispectral Images
Mining
Satellite Images
Spherical Panorama Generation

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Step by Step

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PREFACE

The number of changing and developing sensor systems and the amount of software in which the data obtained through these systems are processed and interpreted is increasing day by day with the development of technology. Agisoft Meteshape is an advanced 3D modeling software based on image data processing developed by Agisoft company. Software: It can generate Digital Surface Model (DSM), Digital Elevation Model (DEM), Solid Model, and 3D model from multiple images, which can process any picture taken by a non-metric camera, from small sculptures to big data from an Unmanned Aerial Vehicle (UAV). Mapping has a wide range of applications in many fields, including preservation of cultural heritage, industry, archaeology, architecture, environment, medicine, civil, and military.

Within the scope of this book, the "Agisoft Meteshape" software, which is frequently used by engineering branches working on earth sciences, is explained in detail according to its different usage areas. The book will help those who want to learn the "Agisoft Meteshape" program and seek resources in other technical fields. Today, it is not possible to implement a project on the land without a map in rural and urban areas. It is used in many important areas such as maps, city plans, construction works, rural and urban area regulations, infrastructure, country defense, and many more. Mapping is a discipline that uses technology and in parallel with this, the need for fast data processing is growing day by day. It has become a necessity for surveyors to use computer programs. Especially with technology, the ways of accessing data and making data meaningful have also changed. In this sense, map production, especially from photographs taken by Unmanned Aerial Vehicles, has recently been developed and started to be used as a base for different disciplines.

The book has been prepared by combining the experiences of our professional life. However, it is possible that there are shortcomings. It is thought that it will be developed further in the process. To Mersin University for their software support; we would like to thank the company "Agisoft" and those who contributed. We hope that the book will be useful to our profession, users, and students.

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Mersin - 2022

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INTRODUCTION

"Agisoft Metashape", known as Agisoft Photoscan, draws attention with its unique feature among other photogrammetry software. Agisoft Metashape, which performs photogrammetric operations of digital images, is preferred by many disciplines. It is also a standalone software that generates 3D spatial data for use in indirect measurements of objects of various scales. This software is distinguished from each other by many features among other photogrammetry software. Agisoft is professional photogrammetry software used for GIS applications, Cultural Heritage, game developers, and visual effects.

The software enables the processing of images from Red-Green-Blue: RGB, thermal, or multispectral cameras into spatial information in the form of dense point clouds, georeferenced true orthomosaics, and a Digital Elevation Model, Digital Surface Model, or Digital Terrain Model.

The software is also capable of automatically classifying dense point clouds, removing shadows and texture residue from models, calculating vegetation indices, and extracting information for precision agriculture.

Metashape software, unlike other software, is possible to create 3D models from photos taken with fisheye cameras and to produce photogrammetric ready maps. Agisoft, which has an automatic camera calibration feature, supports multi-camera projects. With Agisoft you get a dense point cloud. With many globally preferred point cloud extensions, you can export your dense point cloud data to perform digital elevation modeling, triangular modeling, curve passing, and more. In addition, you can automatically create a digital elevation model and a digital terrain model within the software.

The program automatically recognizes the EXIF metadata of the photos. WGS84, UTM, etc. support projections. For big projects, you can export GeoTIFF, kml, and orthophotos. Archaeological structures, historical artifacts, buildings, interiors, human silhouettes, sculptures, etc. You can make 3D models of works such as Agisoft Metashape is one of the best-recommended photogrammetry software.

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Mevzuat

Kanun

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