Sailing Poland Optoelectronic Systems

Structured Light Microcontroller Module

Overview

A structured light module having a microcontroller, comprising: the infrared light supplementing lamp is used for projecting infrared floodlight; a laser lamp for projecting a plurality of discrete infrared light beams with patterns; the infrared sensor is used for receiving the. A structured light module having a microcontroller, comprising: the infrared light supplementing lamp is used for projecting infrared floodlight; a laser lamp for projecting a plurality of discrete infrared light beams with patterns; the infrared sensor is used for receiving the. Structured light systems from ams OSRAM enable 3D imaging applications to achieve extremely high accuracy. Accurate structured light technology is behind the user face recognition being implemented in smartphones. This three dimensional (3D) machine vision design describes an embedded scanner which generates a 3D digital representation of a physical object based on structured light principles. A digital camera along with a SitaraTM AM57xx System-on-Chip (SoC) is used to capture reflected light patterns from.

Article Content

DLP Projection Module | Structured illumination

Explore advanced DLP® projection technology with the spatial light modulators STAR-07 and STAR-07 option RGB for various industrial and R& D applications.

Structured Light Laser Modules for 3D Scanning & Depth Sensing

Shop high-precision Structured Light Laser Modules for 3D scanning, depth sensing, and measurements. Available in various wavelengths (830nm, 850nm) with random dot projection for

Nuvoton unveils the NUC1263 series, a powerful 32-bit Arm Cortex

Nuvoton unveils the NUC1263 series, a powerful 32-bit Arm Cortex-M23 microcontroller tailored for DDR5 gaming modules, delivering a 1.0V I3C interface and seamless gaming light control

Structured-light 3D scanner

Structured-light 3D scanner A structured-light 3D scanner is a device used to capture the three-dimensional shape of an object by projecting light patterns, such as

Structured-Light DLP Projector for 3D Scanner – SICUBE

Compact RGB DLP projector for super resolution microscopy, structured-light 3D scanning. Features TI DLP display tech and high-speed RGB projection.

Structured Light

Structured light refers to a vision system structure that utilizes a projector and one or more cameras to actively project coded patterns onto an object''s surface. By analyzing the captured frames and the

3D Machine Vision Based on AM572x with DLP Structured Light

Pattern projection is performed by a structured light module in the DLP ALC SDK. The module generates vertical and horizontal gray-coded patterns or phase-shifted patterns which are sent to a

Structured Light API

Structured light is considered one of the most effective techniques to acquire 3D models. This technique is based on projecting a light pattern and capturing the illuminated scene from one or

LDR sensor with Arduino – How to use (with examples)

Learn how to use a Light Dependent Resistor with Arduino. This post will cover the basics of the LDR and how to use it to turn on a light when it''s dark.

Polaris Structured Light Module | CloudWalk Technology Co., Ltd.

Supporting 3D structured light live detection, outputting the best face image; Supporting output of face attributes (angle/distance/position) and RGB live video streaming;

Towards Unified Structured Light Optimization

In this paper, we propose a unified framework for structured light pattern optimization. It requires only a single projection to quickly achieve targeted projection optimization for various

Open-source microscope add-on for structured illumination

Researchers developed an open-hardware structured illumination microscopy add-on. This affordable upgrade provides super-resolution capabilities for normal optical microscopes.

Overview of modulation techniques for spatially structured-light 3D ...

The modulation and projection of patterns are the cornerstones of spatially structured-light three-dimensional (3D) imaging. However, an overview of this field is lacking. This paper

Fast structured light engine for 3D image capture based on high ...

We report a compact structured light projector based on a single-axis MEMS torsion mirror with a nominal resonant frequency of 25 kHz and a mechanical scanning range of up to +/-7.5

Structured Light Module

Structured Light Module: Combination of diffractive and refractive optics for laser pattern generation in very high angles.

Fully automated multicolour structured illumination

Haoran Wang and co-authors present an open-source, automated two color structured illumination microscopy module compatible with standard

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A structured light module having a microcontroller, comprising: the infrared light supplementing lamp is used for projecting infrared floodlight; a laser lamp for projecting a plurality of discrete infrared light

create_structured_light_modelT_create_structured_light ...

create_structured_light_modelcreate_structured_light_modelCreateStructuredLightModelCreateStructuredLightModelcreate_structured_light_model creates a new structured light model of type ModelTypeModelTypeModelTypemodelTypemodel_type.

Structured microLED-based micro illumination

Beyond LED microdisplays, InGaN/GaN microLED arrays are expected to greatly expand the potential applications of nitride semiconductors by

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The present invention relates to structured light projection, and in particular, to a structured light module having a microcontroller.

Low-cost, High-precision Structured-light 3D imaging

Low-cost, High-precision 3D imaging system for industrial usage like AOI for PCBs or 3D checking in product lines. By Jiangtao Li.

How to Build an IoT Light Detector with ESP32

Updated: November 6, 2024 The ESP32 is a powerful microcontroller that offers a wide range of applications in the realm of Internet of Things (IoT) and sensor

An Energy-Efficient Microcontroller-Based Smart Light ...

Smart light control technology had started its journey in the early nineties of the twentieth century when microcontroller-based technologies started to become flourishing.

Using DLP® Development Kits for 3D Optical Metrology Systems

This application note presents the operating theory of structured light systems, as well as the key components and design considerations. Special attention is given to hardware selection (pattern

Small Form-factor Structured Light Pattern Generator Reference

Description This ultra-low-cost 3D scanning Reference Design enables faster development of portable 3D scanner and machine vision applications using structured light triangulation technique where

LED intelligent lighting control with ultra-low-power MSP430F51x2 family

The low-power consumption of the MSP430F51x2 microcontroller along with its superior high-resolution Timer_D modules capable of generating pulse-width-modulated (PWM) signals to drive a variety of

An Adaptive and Scalable Indoor Lighting Control

This study has effectively created an expandable indoor lighting management system using ESP32 microcontrollers and IoT technologies with

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