



AKHILESH KUMAR YADAV

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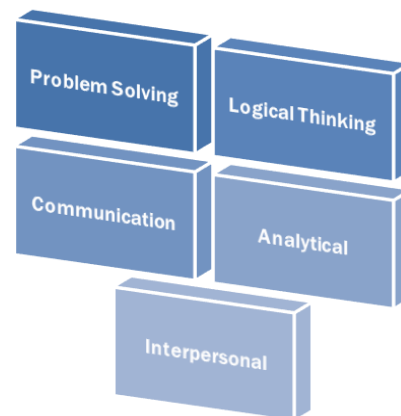
JOB OBJECTIVE

Seeking assignments in Optics and Illumination Engineering with a leading organization of high repute

PROFILE SUMMARY

- **Qualified M.Tech. (Applied Optics) from Indian Institute of Technology (IIT), Delhi** with **nearly 6 years** of experience in Design Engineering, Project Execution, Vendor Development and Documentation
- Experience in Optics R&D of multidisciplinary areas of LED based Illumination System Design for Machine Vision Applications and Night Vision Devices.
- Abilities in managing design engineering operations involving developing drawing for project and coordination with internal departments.
- Holds the merit of delivering thesis on 'Design Considerations of Freeform Optics for LED Based Illumination Systems' during M.Tech.
- Well versed with various concepts of **Optical System Design, Illumination System Design, Laser Systems & Applications, Fiber Optics, Optical Electronics, Optical Workshop, etc.**

Soft Skills



CORE COMPETENCIES

- Coordinating in specifying Optical system specifications, product feasibility and proof of concept
- Overseeing implementation of projects within cost & time parameters; providing technical inputs and engineering support to team / group from conception to completion stage of product development
- Looking after derivation & calculation of design parameters to meet functional requirements as per quality and schedule constraints.
- Designing reporting formats to provide accurate information in a clear and concise manner
- Creation of project WBS, BOM, part drawings, report modules etc. in ERP-SAP based system

DESIGN COMPETENCIES

- Optical design potential in biometric system, Defence & military, Machine vision & Illumination system.
- Hands on experience in Zemax Optical design software - Sequential and Non-sequential feature
- Familiarity with incorporation of freeform optics design for imaging and illumination system
- Basic knowledge of 3D-CAD Opto-mechanical modeling in Catia V5/Autodesk Inventor and Autocad
- Basic understanding to read optical/mechanical part drawings & layouts.
- Implementation of reverse optical engineering for improvement of existing product

ORGANIZATIONAL EXPERIENCE

Since July, 2017 to Present with Mantra Softech (India) Pvt Ltd, Ahmedabad as Team Lead (Optics design)

Key Result Areas:

MANTRA

Product development-

- Biometric optics based fingerprint imaging and illumination system design
- IRIS recognition system
- Other biometric security plus system
- Exploring application of latest trend in technology

Since May, 2014 to June, 2017 with Bharat Electronics limited (BEL), Kotdwara Unit (Uttarakhand), as an Optical Engineer



Key Result Areas:

- Design and development of Electro-optics Devices
- Design and development of testing equipment for Night Vision Devices
- Developing optical methodologies for optics performance testing
- Preparing general test procedures for all Night Vision Devices
- Evaluative testing of active and passive optical components
- Assemble products with certified quality standard using approved manufacturing procedure
- Develop quality control methods and procedures

Since Jul'2012 to April, 2014 with Jekson Vision Pvt. Ltd., Ahmedabad as an Optical Design Engineer



Key Result Areas:

- Carrying out designing functions of Optical and Illumination System for Machine Vision Applications
- Performing testing of Optical Prototype for Machine Vision System for Imaging & Illumination purposes
- Accountable for selecting several cameras and lenses for Machine Vision Applications
- Identifying various vendors for Fabrication functions of several Optical components

Highlights:

- Deft in handling various applications of LED's for lighting design
- Instrumental role in designing customized Active Illumination Systems for various Machine Vision Applications

Major Projects Handled:

- LED based Illumination System for Bottom BIS (Blister Inspection System) for investigating tablets & capsules in Sealed Blisters
- LED based Illumination System for Line Scan Camera
- Laser based Illumination System for 3DBIS to measure shape and dimensions of various tablets & capsules
- Laser based Illumination System for Bottle Cap Inspection
- LED based Edge Backlight for Inspection of Vials

TRAINING

- Attended training on 'Optical Designing' for 2 days in 2011

IT SKILLS

- Zemax & TracePro (Optical Design Software), CATIA V5/ Inventor 3D CAD and AutoCAD
- Optical System Design, Light Designing & Machine Vision
- Programming Languages like C & C++ and MATLAB

EDUCATION

- M.Tech. (Applied Optics) from Indian Institute of Technology, Delhi with CGPA 7.49 in 2012
 - Modules Covered: Optical Sources Detectors & Photometry, Optics & Lasers, Fourier Optics & Optical Information Processing, Theory & Applications of Holography, Optics Laboratory I, Optics Laboratory II, etc.
- M.Sc. (Physics with specialization in Electronics) from University of Allahabad with 62.94% in 2009
- B.Sc. (Physics) from Ewing Christian College, Allahabad with 51.05% in 2007
- 12th from R.P. Inter College, Allahabad with 53.00% in 2002
- 10th from S.B.M Inter College, Allahabad with 55.50% in 2000

SEMINARS

- Actively participated in various seminars such as:
 - CRL Technical Symposium at BEL-Bangalore in 2016
 - Recent Trends in Nano Photonics at IIT, Delhi in 2012
 - LED Exhibition at New Delhi in 2012
 - Frontiers in Optics and Photonics at IIT, Delhi in 2011

THESIS

Title: Design Considerations of Freeform Optics for LED Based Illumination Systems

Supervisors: Dr. Gufran S. Khan and Prof. Chandra Shakher

Description: It aimed to design Freeform Optics for LED Based Projector to make Illumination System compact with better performance. Beam Shaping Optics was incorporated to design Freeform Lens for LED through simulations in ZEMAX (Optical Design Software) and results were evaluated & compared with existing Lenslet Array Illumination System used in Projector and designed Freeform Lens.

EXTRACURRICULAR ENGAGEMENT

- Actively served as member of Training & Placement Cell of IIT, Delhi during 2011-2012

VOLUNTARY ASSIGNMENT

- Actively participated in several Environmental Awareness Programs at Ewing Christian College in 2006

PERSONAL DETAILS

Date of Birth: 13th June, 1985

Address: E.W.S C4-21 ADA Colony Naini, Allahabad-211008

Languages Known: English and Hindi

Location Preference: Metro Cities

Hobbies: Enjoy listening to music, watching movies and travelling to new places