HIMA NSHU DOBHA L

| ☎: +91- 776 051 6408 | ✉: himanshu.dobhal24@gmail.com | GitHub: https://github.com/himanshudobhal
Skype ID: dobhal.himanshu | LinkedIn: www.linkedin.com/in/himanshu-dobhal-3477701a0/

PROFESSIONAL BACKGROUND

- Diligent and Innovative IT professional with over 12 years in NLP, Computer Vision, Image processing, Machine Learning, Deep Learning and Time Series especially enabling environmental/sustainability work, computer graphics, fundamental scientific research, space exploration, or personal assistive technologies with expertise in delivering quality software solutions
- Develop novel real-time 3D scene reconstruction techniques and deliver accurate visual odometry system.
- Develop algorithm for sensor fusion of Lidar data with RGB camera and IMU, 3D mapping, texture mapping.
- Competent in working on research & development of deep learning algorithms, computer vision and machine learning algorithms for exploring research in the areas of image processing/computer vision, and building automated machine vision systems across Automobile, Agricultural and Healthcare products
- Attained proficiency in solving high-value challenges using computer vision and machine learning in real world scenarios and Advanced analytics platforms to solve critical business problems
- Proven track record in Deep Learning models of CNN, GAN, traditional Image processing and Computer Vision like Classification, Segmentation, Object Recognition and tracking, face recognition, image enhancement and Multiple view geometry
- Experienced in working with various applications like patient moment monitoring and autocalibration of X-ray machine using depth camera by estimating the pose of OTS, Face Recognition and verification for surveillance, Image Stitching for ADAS system based on Fisheye lens also Optimization of Model and Deployment on Embedded Systems using Open vino
- Well-versed with Technical skills like Python, C++, Matlab, Machine Learning- Scikit-learn, StatsModels, Deep Learning: Tensorflow, Keras, PyTorch, etc.

Skill Sets: Research & Development | Generative AI | LLM | NLP | | Time Series | Computer Vision | Visual SLAM | 3D reconstruction | 3D Geometry | Image processing | Machine Learning | Deep Learning | Artificial Intelligence | Software Development | Python/C++ | Generative Adversarial Network VAE | Multiple rnel Learning | Auto Calibration | Image Enhancement | Object Recognition & Tracking | Face Recognition | Detection/Classification | Project & Team Management

Technical Skills: **Languages-** Python, C++, Matlab | **Machine Learning-** Scikit-learn, StatsModels | **Deep Learning-** Tensorflow, Keras, PyTorch | **LLM –** OPEN AI, LangChain GPT 3.5 and 4 | **Embedded Systems-** Open vino | **CV packages-** Opencv, Skimage, Matlab toolkit | **Scripting Languages**- Perl, Bash shell |
Plotting- Matplotlib, ggplot2 & Seaborn | **Version Control Systems**- Git, SVN | **Operating System-** Linux (Ubuntu, CentOS, Fedora), Windows

EMPLOYMENT HISTORY

Jan 2023 – Present **Principal Data Scientist | Asper.ai**

- Implementing large language models (LLMs) across various turnkey products to enhance natural language processing capabilities and drive intelligent decision-making.
- LLM implementation to analyze statical data and query the database. (SQL , pandas data frame)
- Leveraging time series analysis techniques to provide accurate forecasting solutions in the Consumer Packaged Goods (CPG) domain (XGboost, CNN-LSTM, Wave net, ,Transformer time series)
- Passionate about integrating cutting-edge technologies to optimize business processes and deliver tangible value to clients

June 2021 – Nov 2022 **Solution Architect | Tooliqa Innovations India**

- Implemented Sensor Fusion to get precious visual odometry for an indoor area (Sensor used:- lidar, RGB and IMU)
- Reduced extrinsic metric error using the ICP algorithm in frame-frame or frame-map while having depth error in lidar frame data.
- Data optimization on point cloud has been done using the octree data structure for high performance in calculation
- BIM structure has been formed using the basic structure shape (plane, cylinder and sphere) on the point cloud.
- Deep learning model (Yolo7, NERF,Efficient net) used for conversion of 2D to 3D and segmentation of 3D object from environment.
- Computed Camera Calibration for Converting depth image to Point cloud.

Jul 2019 – May 2021 **Sr. Software Engineer | GE Healthcare, India**

- Focusing on research and development of computer vision and machine learning algorithms related to object recognition, image enhancement, detection/classification, and identification/segmentation of human anatomy
- Actively participate in challenging software research projects for applying combination of Deep Learning, Natural Language Processing and Representation pipelines to design, analysis and engineering workflows for real world problems
- Analysing patient anatomy through X-ray & visual the moment on dashboard using contour from reference image to target image
- Designing/developing computer vision or deep learning AI object detection/ classification of light on/off condition inside X-ray room using live streaming videos
- Collaborating with architecture, research, libraries, software engineers, data engineers, designers, program management, and quality assurance to ensure prototypes and solutions are delivered efficiently and effectively
- Building application for auto calibration for X-ray machine using depth camera by estimating pose of different receptor type
- Participating in computer vision and deep learning-based model using Open vino (Intel SDK for deep learning) for inferencing in Embedded System
- Responsible for development of automated testing to measure quantitative impact of company's core technology on subsequent computer vision processing.

Jan 2017 – July 2019 **Consultant | Vee Technologies, India**

- Drive improvements to our core vision engine that models the 3D environment from 2D images
- Applied image processing techniques for running an incubator center (AIML R&D lab) in Sona College of Engineering with collaboration of VEE technologies
- Performed research and developed computer vision solutions/models for estimating decaying time of fruits and vegetables using hyperspectral images
- Implemented deep learning method of classification, segmentation and anomaly detection for grain identification
- Spearheaded the team of 20 members to enhance Research Associates, undergraduate/postgraduate students in Incubator center
- Involved in live product development for Grain type identification and quality of grains using images
- Technical approach to develop applications for Face Recognition & Verification of proctored exam HIREMEE APP and deployed in AWS server

Sep 2016 – Jan 2017 **Senior Software Engineer | LEECO India Pvt. Ltd**

- Stay up to date with the latest research in computer vision and machine learning as applied to the problem resolution
- Developed/deployed high-quality unit-tested, production photogrammetry software and POC for recommender system
- Collaborated closely with team members to solve tough computer vision problems and automated quality assessment
- Worked with engineering, design, operations and marketing other teams to optimize/execute our commercial software deployment
- Maintained high level of communications with the software development team and application engineers to enable progress of multiple projects and products
- Developed quality software for mission critical industrial applications optimized to be deployed on high performance platforms
- Provided image processing/Machine Learning software for quality inspection

Mar 2013 – Sep 2016 **Senior Software Engineer | Bosch India & Germany**

- Driven significant improvements in speed and quality from conception to production rollout and ongoing support
- Managed computer vision tasks such as image search, image segmentation, depth estimation, object detection, image editing, pose estimation, and generative image editing using
- Responsible for creation of Image based ego motion (pitch and roll rate) estimation using stereo camera
- Carried out Optical flow vector generation and Image harmonization of stitched images for near range camera

- Involved in Image enhancement for dashboard screen in the car (brightness and contrast)
- Coordinated with image quality testing engineers to optimize image quality and algorithm performance across a wide range of environmental conditions
- Developed & maintained end to end algorithm models for multi-camera imagers
- Research/implemented algorithms for image transformations with an eye towards performance and compression
- Assisted in development of the image processing space including image formats, computer vision, and new software

PRIORHISTORY

Oct 2012 – Mar 2013 | Consultant | Sony India Pvt. Ltd
Feb 2011 – Oct 2012 | Software Engineer | ASDLABS, India

EDUCATIONALBACKGROUND

2019 **Post Graduate Program in Artificial intelligence & Machine Learning | The Great Lakes Institute of Management, India**
2011 **Master of Science in Embedded and Control System | University of Leicester, Leicester, England**
2009 **Bachelor of Technology in Electronic & Communication | University of Rajasthan, India**