# Shashank Mewada

**Certified Data Science Professional**

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## DATA SCIENCE PROJECTS

### Object detection and Monocular Depth Estimation using PyTorch
- Combined YOLOv3 with MiDaS model in Pytorch to perform joint Object Detection and Monocular Depth Estimation
- Trained the model on custom dataset of Personal Protective Equipment images

### Human Pose Estimation using ONNX models on Azure
- Implemented the paper Simple Baselines for Human Pose Estimation & Tracking
- Converted the pretrained ResNet50 model to ONNX and Quantized in Pytorch.
- Deployed the model to Cloud using Azure Functions (serverless)

### Object Detection using PyTorch
- Implemented Object Detection using Yolov3 model in Pytorch
- Trained the model on custom dataset of Personal Protective Equipment images
- Performed model inference on a video sequence

## OFFICE PROJECTS

### Vibration and Shock Calculator
- Developed calculator for Multi degree Vibration and Shock Response for multi mass system
- Programmed application for CAD Geometry visualisation using OpenGL
- incorporated functionality like plotting of the Response Curves, Mode shapes Animation and automatic Report generation

### Auto Ballooning in Technical Drawings
- Programmed application Process input files in DWG / PDF / TIFF format
- Incorporated functionality to place the balloon tags optimally in the document at unoccupied space using OpenCV and AutoCAD .NET API
- Collected custom data and trained Tesseract models to recognise GD&T symbols
- Implemented First Article Inspection Report generation using Excel

### Surface Generation from Triangular Mesh, DICOM dataset
- Modeled good continuity surfaces from triangular mesh using Meshmixer, CATIA
- Segmented DICOM dataset and created STL files for 3D printing

## PATENT

**Phatak et al. 2016 , Method for Lossless Compression and Regeneration of Digital Design Data , US10891759B2** Patent Issue Date: Jan. 12 , 2021

## EXPERIENCE

### AMP Engineering Design Ventures LLP
**Senior Software Engineer**
Jul 2016 - Present | Mumbai, MH
- Conducted and managed bi-weekly Agile sprints with team size of 5
- Managed the software development cycle, including research, architecture, development, testing, release, upgrades for custom CAD application.
- Performed Structural/Fluid simulations and ran ”what-if” scenarios to suggest optimal solutions

**Graduate Engineer**
Jul 2013 - Jul 2016 | Mumbai, MH
- Programmed application to automate manual CAD Design procedures.
- Modeled 3D CAD Parts and Assemblies as per ASME Standard.
- Collected data and created detailed technical documentation

## SKILLS

### Machine Learning
- Pytorch
- NumPy
- Pandas
- Scikit-learn
- Matplotlib
- OpenCV

### Programming
- Python
- C++
- C#
- SQL

### Technology
- Azure
- Github
- VS Studio
- Excel
- Windows
- Linux
- LaTeX

### CAD
- ANSYS
- CATIA
- SolidWorks
- AutoCAD
- OpenGL
- Meshmixer

## SELF LEARNING

- Computer Vision III: Detection, Segmentation and Tracking (CV3DST)
Jan 2021 - Present

- Extensive Vision AI Program, The School of AI
Sep 2020 - Dec 2020

## MOOC

- Deep Learning Specialization, deeplearning.ai, Coursera
May 2020 - Aug 2020
- 2SU44333JUZH

- Applied Data Science with Python, University of Michigan, Coursera
Jan 2020 - Jun 2020
- R74FYAN3SEMP

## EDUCATION

University of Mumbai
Bachelor of Mechanical Engineering
May 2012 | Mumbai, MH
- First Class