SHASHANK MEWADA

MACHINE LEARNING ENGINEER

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PROFILE

Team Lead with 8+ years of experience in AEC, Automotive and Healthcare domain. Seeking opportunities to develop innovative solutions using Deep Learning in Engineering and Manufacturing sectors

- Interacted with Client for requirement gathering
- Led a team of 5 developers in an Agile setting
- Self-Taught Developer proficient in Python, C++
- Skilled in Machine Learning, Computer-Aided Design
- Hands-on experience creating complete ML pipeline to solve business problems

PATENT

"Method for Lossless Compression and Regeneration of Digital Design Data"
US Patent No. : US10891759B2
Date of Patent: Jan 12, 2021

CERTIFICATION

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

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

EDUCATION

University of Mumbai
Bachelor of Mechanical Engineering
Jun 2008 - May 2012

SKILLS

- **Machine Learning**: PyTorch, NumPy, Pandas, Matplotlib, Scikit-learn, OpenCV
- **Tools & Technology**: AWS, Heroku, Github, Docker, DVC, JIRA, Eigen3, OpenGL, Streamlit
- **CAD**: CATIA, SolidWorks, AutoCAD, FreeCAD, Meshmixer
- **Programming**: Python, C++, AutoLISP

WORK EXPERIENCE

AMP Engineering Design Ventures LLP -Mumbai, India
Team Lead | Jul 2019 – Nov 2021

1. AMP QA Dimension

- Developed an application for recognition of Text and GD&T symbols (±, Ø) in CAD drawings using PyTorch
- Reduced the manual processing time per file by 80%
- Technologies: AWS, PyTorch, Docker, AutoCAD, OpenCV

2. Shockres Application

- Led team in developing C++ based Vibration, Shock Response calculator for Multiple Mass System
- Developed ~70% of application including Calculator, Plots and Mode shape Animations using OpenGL, Python
- Technologies: C++, Eigen3, Python, OpenGL, JIRA

3. Medical CAD Visualisation

- Created CAD visualisation from medical DICOM data for surgery planning of critical cases within 1 day
- Trained PyTorch U-Net model on medical data for cancer detection and segmentation
- Technologies: PyTorch, Invesalius, Meshmixer

DATA SCIENCE PROJECTS

1. Fluid Flow prediction using Deep Learning

- Implemented "Deep Learning Methods for Reynolds-Averaged Navier-Stokes Simulations of Airfoil Flows" paper using PyTorch for wing profiles
- Trained Autoencoder to predict Pressure, Velocity using OpenFOAM simulation results as Ground Truth
- Deployed model using Streamlit and AWS Lambda
- Technologies: AWS, PyTorch, Github, Streamlit, Docker

2. Point Cloud Curve and Normal estimation

- Implemented "Dynamic Graph CNN for Learning on Point Clouds (DGCNN)" paper using PyTorch
- Trained the Graph Network on partial ABC dataset for Curve and Surface Normal estimation
- Technologies: PyTorch, Github