Reza Tanakizadeh
Computer Vision Engineer

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+2 years of experience developing machine learning applications, data collection, model implementation, and model deployment. Completed approximately 20 machine learning projects with international teams. Working with computer vision models such as object detection, segmentation, classification, and 3D computer vision algorithms..

Skills

- **Python**
- **Pytorch**
- **Opencv**
- **Numpy**
- **Pandas**
- **Scikit-learn**
- **Tensorflow**

- **Matplotlib**
- **Streamlit**
- **Seaborn**

- **Linux (Ubuntu)**
- **Git (Gitlab, Github)**
- **Fast-API**
- **SQL**
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- **AWS (EC2)**
- **Docker (Beginner)**
- **Raspberry-pi**
- **Arduino**

Experiences

DeepMeds, Sydney Australia (Remote)— *Computer Vision Engineer……………..…… Sep 2022- PRESENT*
- Utilized Generative Adversarial Networks (GANs) for medical image-to-image translation, achieving an accuracy rate of 86%; Work was done by Pix2Pix modified model and this accuracy improved around 4% than previous model in the company.
- Annotate more than 2000 images for dental teeth detection (YOLO) and decay classification in coordination with specialists.
- Developed a CT-scan image segmentation solution and implemented a user-friendly web-face interface using FastAPI.
- Signal Processing for EEG signal analysis and achieving 96% accuracy in the DEAP dataset. Using pre-processing methods and combining ideas belong to model development.
- Carried out an ensemble learning approach to achieve 87% accuracy in segmenting Macular images.
- Maintain an annotation tool for specific object detection with Qt framework; This toolkit can be used as a faster object detection annotation.

Nove, Tehran, Iran— *Computer Vision Engineer…………………………………….…..…… Jan 2022- June 2022*
- Enhanced the Yolov7 algorithm by integrating an attention module (CBAM), resulting in a significant 5% accuracy boost in detecting smoke within natural environments (more information).
- Achieved a remarkable 91% accuracy in solving the face verification challenge and use optimization solutions to implement it edge devices like raspberry-pi.
- A multi-camera ball detection in volleyball videos with accuracy of 96% and detect players in each video; In this work a new detection algorithm designed to get a faster model as 50 FPS.
- Achieved 96% accuracy in ball detection for volleyball videos; in this work used an innovative detection algorithm for a faster processing speed of 50 FPS. (more information : link1, link2).
- Progressed and adopted a highly efficient depth estimation framework for car lighting nuances and shape analysis, achieving an impressive speed of 20 FPS.

Education
- BS in Electrical Engineering at Iran Broadcasting University, Tehran Iran (17.03/20).
  - Execute a CNN model on an FPGA (Spartan) device with VHDL design.

Publications
- Few-shot incremental learning in 3D point cloud classification (under-writing).
  - Improve learning accuracy for the last training stage up to 20% than related works in this field.
- Melanoma segmentation with INS-Net and voting approach (under-writing).
  - Adjust some preprocessing and postprocessing methods to increase accuracy of a pre-trained model.

Languages
- English (C1)