Gaurang Sharma

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The following information describes a person who connects the world of probabilities to the world of possibilities. At the moment, I'm studying in the field of machine learning and advancing my skills while contributing to the research society.

Summary

- 3 years of software development experience at Cognizant.
- Currently working as a research assistant in the RoboLab, Tampere University.
- Worked on collaborated projects of TAU and their clients like Valmet, ACGO Power, Sandvik, and Futudent.
- Hands-on experience with object detection, data augmentation, and deep learning backbones.
- Professional exposure to an agile approach in the business environment.
- Acquaintance with machine learning libraries such as Detectron2, Yolo, Tensorflow, and pytorch..
- Associate eager to learn new technologies and advance in their career.

Professional Experience

Tampere University

Thesis Worker, Cognitive Robotics (Dec 2022 and ongoing)

- Topic: Sim-to-real Object detection and 6D pose estimation.
- Generation of artificial dataset using 3D CAD models and BlenderProc.
- Object detection using Detectron2 Mask RCNN.
- Pose estimation using a deep learning methods and model training on CSC's supercomputer.
- Final application on **Sandvik**'s objects to estimate their 6D pose.

Research Assistant, Cognitive Robotics (June 2022 and Dec 2022)

- Developing object detection algorithms using Detectron2, YOLOv(3-7), and various other detectors.
- Work on a **Valmet** project for suction roll inspection. Here, I am responsible for the data generation and vision pipelines.
- Experienced in object and target detection for an **AGCO power** diesel engine assembly using a Franka Panda robot.
- Worked on orientation and depth for object grasping.
- Building augmentation pipelines on a custom dataset with annotations of bounding boxes, key points, and instance segmentation. Thus, making the process more general in order to bridge the gap between different annotation formats like Coco and others.
- Working and learning the Image and World Coordinate Systems using computer vision algorithms and ROS.
- Currently working on the **OpenDR** (https://opendr.eu/) repository.
- Dental disease detection on **Futudent**'s dataset using YOLOv5.

Cognizant technology solutions

Programmer Analyst, Web Frontend Development (September 2018 to July 2021)

- Developed, maintained, and migrated applications using cutting-edge front-end technologies.
- Excellent understanding and experience with cross-browser and cross-device compatibility, focusing on responsiveness, accessibility, and interactive web development.
- Experienced in developing configurable layouts and functionalities to create global and dynamic components.
- I worked on an onshore-offshore-based model with direct client interaction.

Skills

- Python
- MATLAB
- NumPy
- Blender Proc
- Detectron2
- jQuery/JavaScript
- TensorFlow and Keras
- Responsive Web Design
- YOLOv5
- JSON
- CSS 3
- HTML 5

Accomplishments

Innovation Festival, Tampere

Mitigate fatalities on the road. (15, November to 19, November 2021)

- Presented an idea to increase the *golden hours* in the survival rate of individuals on hazardous roads.
- Targeted two sustainable development goals —"Good health care & well-being" and "sustainable cities & communities".
- The idea involves implementing data-gathering strategies and ML algorithms to save lives.

A hackathon conducted by *IBM in collaboration with Cognizant*

SAFE-Safe Adaptable and Flexible Education (April 2020 to May 2020)

- To help mitigate the consequences of natural catastrophes and global pandemics, an open-source technological solution was developed named SAFE.
- Our team devised a solution that serves as a link between students and online learning platforms. This technology instantaneously overcomes the language barrier and can be integrated with 9 out of 10 online platforms, allowing it to deliver courses in 125 languages.
- Played the full-stack developer role, integrating Python machine-learning algorithms into the nodeJS framework.

Voluntarily

Ahimsa Quest for Peace and Change (August 2015 to June 2018)

- For three years, I worked as a team member and then headed a group of 30 individuals.
- We conducted blood donation drives, public awareness campaigns, and various events to benefit and educate society.
- Through my volunteer service, I have gained soft skills like leadership, a growth mindset, and management.

Education

Tampere University, Master of Science (Technology)

Signal Processing, and Machine Learning in the Computing Sciences (August 2021 and ongoing)

Grade so far: 4.5/5

Dr. A.P.J. Abdul Kalam University, Bachelor of Technology

Computer Science and Engineering. (August 2014 to June 2018)

Overall Percentage: 74.2%

Languages

English Professional **Hindi** native **Finnish** Basic