Basavaraj Hampiholi

LinkedIn Twitter Github

00-00-08, Syrlinstr.8,
Ulm, 89073, Germany.
✉ : basavaraj_hampiholi@outlook.com
✆ : +49-17671228392

Work Experience

BMW Car IT Gmbh, Ulm, Germany 12/2018 – 02/2022

Ph.D. Student | Deep Learning and Computer Vision

- Data analytics for gesture control technologies: Recognition of driver intentions using combined gesture and head pose data.
- Designed and trained a novel deep neural network model for human action recognition in videos. Further, I proposed a new transformer-based fusion strategy to combine multiple modalities which are homogeneous or heterogeneous in nature. Our approaches not only achieved state-of-the-art results but are also resource efficient.
- Pose estimation of sortbots using keypoint detection methods like keypoint RCNN, HRNet.

NEC Labs Europe, Heidelberg, Germany 04/2018 – 09/2018

Machine Learning Intern | Image Processing and Computer Vision

- Automatic detection and tracking of prophase in mitotic cell division process (microscopic images) using deep learning model in assisting the biologist to analyze the cancer cell growth.
- Deep learning for the garbage monitoring system to assist the city office in the automatic detection and recognition of illegal dumping.

Tata Consultancy Services (TCS), Pune, India 12/2011 – 11/2014

Data Engineer | Manufacturing Information Systems and Data Analytics

- Data collection from various sources such as sensors in manufacturing plants, historian databases, quality systems, and production order planning systems.
- Created database views and developed SQL scripts to retrieve relevant data and store it in a relational database (Oracle).
- Applied feature engineering techniques to clean the data for further modeling purposes.
- Applied predictive analytics to prevent glass breakages in the glass manufacturing plants. This saved material loss and time.
- Automation of data gathering using R scripting and scheduling through IBM SPSS Manager (C&DS)

Education

Ulm University, Ulm, Germany 12/2018 – Present

Ph.D. in Artificial Intelligence
Thesis: Learning-based multi-modal intent recognition of human actions **(Under Review)**
Research Interests: Object Detection and Recognition, Semantic Segmentation, Video Analytics, Multi-modal Learning, Activity Recognition, Data Science

Technical University Kaiserslautern, Kaiserslautern, Germany 10/2015 – 10/2018

M.Sc. in Computer Science | Intelligent Systems - (**CGPA** – 1.9) [1 - outstanding, >4 - fail]
Thesis: Learning 3D shapes as multi-layered height maps using 2D CNN
Related Coursework: Artificial Intelligence, Deep Learning, Image Processing &Vision, Sensor Signal Processing, Data Science, Bio-Inspired Robots, Autonomous Robots

Visvesvaraya Technological University, Belagavi, India 08/2007 – 06/2011

Bachelor of Engineering in Computer Science - (**CGPA** – 8.46) [10 - outstanding, <4 - fail]
Related Coursework: Data Structures and Algorithms, Neural Networks, OOP, Databases, Software Engineering

Skills

Programming: Python{Scikit-Image, NumPy, SciPy, Pandas}, OpenCV, C++, SQL
Machine Learning Tools: PyTorch, Keras, Tensorflow, Scikit-learn, MLFlow (MLOps), Azure, SPSS
Operating System: Linux (Ubuntu), Windows-10, ROS, Docker
Languages: German (B1)- Intermediate, English- Proficient, Hindi- Proficient

Awards

Star of the month: Awarded for root cause fixes and customer satisfaction. @TCS
On the spot award: Awarded for solving a critical problem quickly. @TCS
Best Idea: Awarded for formulating an idea for mobile app development @EESTEC Kaiserslautern

Publications

1. K.Sarkar, B.Hampiholi, K.Varanasi, D.Stricker, “Learning 3D shapes as multi-layered height maps using 2D convolutional neural networks”, European Conference on Computer Vision, 2018.
2. B.Hampiholi, C.Jarvers, W.Mader, H.Neumann, “Depthwise separable temporal convolutional network for action segmentation”, International Conference on 3D vision, 2020.
3. B.Hampiholi, C.Jarvers, W.Mader, H.Neumann, “Convolutional transformer fusion blocks for multi-modal gesture recognition”, IEEE Access, 2023. (Submitted)