Harshav Kumar

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Objective

Executing data-driven solutions to increase efficiency, accuracy, and utility of internal data processing. Experienced at creating data regression models, deep learning models using predictive data modelling, and analyzing data mining algorithm to deliver insights and implement action-oriented solutions to complex business problem. Highly skilled in machine learning, Computer Vision, data visualization, and creative thinking.

Research Interest: Computer Vision, Deep Generative Models, Machine Learning, Natural Language Processing

Experience

PAPERS

- **Door Security using Face Detection and Raspberry Pi (**http://iopscience.iop.org/issue/1757-899X/331/1) under IOP Publication.
- Controversy Probability Prediction on Twitter Corpus (**http://www.iteejournal.org/v9no5oct20_pdf8.pdf) under ITEE Publication**

WORK EXPERIENCE

- **Machine Learning Associate** at **RMgX Technologies LLP** (Sept 2019 to Present)

INTERNSHIP

- **Machine Learning Research Intern** at **CSIR-CEERI** on project SHM (Structural Health Monitoring) based on Digital Signal Processing and Machine learning using Python. (May 2018 to Jan 2019)
- **Artificial Intelligence Intern** at **MTX IT CONSULTING SERVICES PRIVATE LIMITED**, Kick-started the research on Person Re-Identification at the company for smart security surveillance. In Just 2 months, I have built a Person Re-Id algorithm which is ready to incorporate on the security camera module. (10 Jan to 15 Mar 2019)

Projects

ADDNET | DEEPLABV3 | PYTHON | KERAS

Advt. placement onto live video feed without distorting pixels and placing at suitable position with respect to person in feed, its based on DeepLabV3 architecture.

BRISO | CNN + SENET50 | PYTHON | KERAS

Face Recognition model based on the SeNet50 architecture

DIGINOTE | GATED CNN + MDLSTM | PYTHON | KERAS

Handwritten text recognition system and word segmentation system with over 93% accuracy.

LICENSE PLATE RECOGNITION | WODNET | PYTHON | KERAS

Fine tuned WodNet based on DarkNet architecture is used to recognize License plate.

VIOLENCE SURVEILLANCE | CNN + LSTM | PYTHON

To monitor surveillance cameras to detect anomalies automatically, and give information to certain department which handle these issues accordingly.

HUMAN POSE ESTIMATION | OPENCV | PYTHON

Using MP-II Dataset key points – 16 and pre-trained model, we have developed algorithm for pose estimation of a person in real-scenario.

SHM (STRUCTURAL HEALTH MONITORING) | DIGITAL SIGNAL PROCESSING| MACHINE LEARNING | PYTHON

Implementing damage detection strategy using machine learning by processing data with help of digital signal processing

OBJECT DETECTION | DEEP LEARNING | OPENCV| PYTHON | CAFFE 2

Deep learning-based object detection with OpenCV, mobilenet and SSD (Single Shot Detector) having a minimum threshold of 20% to filter weak detection.

CONTROVERSY RECOGNITION IN TWITTER | NATURAL LANGUAGE PROCESSING

Define behavior based on data retrieved from twitter of a user by cleaning, transforming and calculating sentiments of tweets.

Skills & Abilities

- **Programming:** C++, Python, Shell Scripting.
- **Artificial Intelligence:** Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Distributed Computing (Amazon EC2)
- **Software:** PyCharm, VS Code, Jupyter.
- **Machine Learning Frameworks:** TensorFlow, Keras, Scikit-Learn, Torch, NLTK, OpenCV, Dlib, Seaborn

Certificates

- Machine Learning by Stanford University on Coursera
- Neural Networks and Deep Learning by deeplearning.ai on Coursera
- Introduction to Data Science in Python by University of Michigan on Coursera
- Applied Machine Learning in Python by University of Michigan on Coursera
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning by deeplearning.ai on Coursera

Education

UNDER-GRADUATION | B.K. BIRLA INSTITUTE OF ENGINEERING & TECHNOLOGY, PILANI, INDIA
Computer Engineering (Hons.) with 72% aggregate.

SENIOR SCHOOL CERTIFICATE | HALWASIYA VIDYA VIHAR, INDIA
Completed in 2014 with 80%.

SECONDARY SCHOOL CERTIFICATE | HALWASIYA VIDYA VIHAR, INDIA
Completed in 2012 with 9.8 CGPA.

Extra-Curricular Activities

HEAD | CULTURAL TEAM | BKBIET
August 2018 to May 2019
Helped the team in the smooth conduction of every cultural event.

COORDINATOR, VICE-CHAIRPERSON | IEEE BKBIET STUDENT BRANCH
August 2017 to May 2018
Responsible to motivate and lead a team for planning, coordinate the event under IEEE BKBIET Student Branch.

COORDINATOR, CONTROLS | QUASAR 2K16, BKBIET
Responsible for planning and checking all needs required for an event.

COORDINATOR, INTER-DANCE | BASANT 2K16, QUASAR 2K18 BKBIET
Responsible for motivating participants and increase their capability as a dancer and to teach them new moves.

Hobbies

Playing football, listening to music, dance, and photography.