Harshavardhan Unnibhavi

• harshanavkis@gmail.com • https://github.com/harshanavkis

Education

Indian Institute of Technology Dhanbad,Jharkhand,India *July 2015 - present*
B.Tech in Electronics and Communication Engineering, Minor in Computer Science

National Public School,Rajajinagar,Bengaluru *July 2013 - March 2015*
12th CBSE board

Research Interests

- Deep Learning, Computer Vision, Robotics, Human-Computer Interaction

Internship Experience

- **Research Intern**, *Simon Fraser University, Burnaby, BC, Canada* *May 2018- present*
  - Worked on Deep Feature Compression for Collaborative Intelligence
  - Developed a simulator using the Keras framework to simulate the transmission of deep features.
  - The simulator can be found at, DFTS.
- **AI and Reasoning Engine Intern**, ZapMyTrip Travel Solutions *November 2017- January 2018*
  • Responsible for integrating NLP algorithms to extract contextual and factual information from travel reviews, news articles, into their application.

Publications

- H. Unnibhavi, H. Choi, S. R. Alvar, and I. V. Bajic, "DFTS: Deep Feature Transmission Simulator," IEEE Multimedia Signal Processing Workshop (MMSP), Vancouver, BC, Aug. 2018

Projects: code can be found at the GitHub link

- **EasyTorch** *June 2018- Present*
  - A graphical user interface to PyTorch.
  - The aim is to create and train/test models by providing a drag and drop interface to the application, leading to faster prototyping, thus accelerating research.
- **End-To-End Text to Speech Model** *October 2017- December 2017*
  - Design and Implementation of a Text to Speech model in PyTorch using Deep Learning.
  - It was designed for the Hindi language.
- **Cats Vs Dogs** *August 2017*
  • Created a 6 layer Convolutional Neural Network in Tensorflow.
  • Each layer consists of a Convolution, Non-Linearity and Max Pooling.
  • This network was trained on the Cats Vs Dogs dataset found on Kaggle.
  • Achieved an accuracy of 87.5% on the test set.
  • The project can be found at this link.
- **Sentiment Analysis on Rotten Tomatoes dataset** *April 2017- May 2017*
  • Converted the training and test dataset into word2vec representation.
  • Applied KMeans clustering to find semantically related clusters.
  • Trained a random forest classifier to produce the predictions.
  • The project can be found at this link.
- **Robot controlled by an AVR ATMega8 Microcontroller** *October 2015*
  • Built a Line follower,Edge and Wall Avoider bot
  • Built a GSM controlled bot using Dual Tone Multiple Frequency(DTMF) signalling

Technical Skills

Programming languages	C,Python,Java,C++,8085 Assembly
Software Skills	MATLAB, AVR Studio, Git,LaTeX
Operating Systems	Windows,Linux
Frameworks	TensorFlow, PyTorch, Keras
Hardware Skills	Arduino, AVR ATMega8, 8085, TMS320C31 DSK, 31 DSK

Relevant Courses

- Signals and Systems,Digital Signal Processing, Microprocessors, Computer Networks, Computer Architecture, Operating Systems(current)
- Data Structures,Algorithm Design and Analysis,Linear Algebra,Multivariable Calculus,Vector Calculus,Numerical and Statistical methods
- Machine Learning(by Andrew Ng,Coursera),cs231n(Fei Fei Li and Andrej Karpathy)

Selected Achievements

- Was awarded the Mitacs Globalink fellowship.
- Was selected for the KVPY scholarship program from about 150,000 students, conducted by the Indian Institute of Science, Bangalore and the Department of Science and Technology, Government of India. I was declared among the top 1% after a rigorous examination and an interview.(Since 2015)
- Was among the top 1000, selected from a pool of 500,000 students all over the country after clearing the National Talent Search Examination, which is a national-level scholarship program in India.(Since 2013)

Languages known

English(Proficient),Kannada,Hindi