Jugat Singh Lamba

CONNECT

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EDUCATION

VELLORE INSTITUTE OF TECHNOLOGY, CHENNAI CAMPUS

BTech in Computer Science
Expected May 2018 | Chennai, India
CGPA: 8.85/10 (After 4 Semesters)

BIRLA VIDYA NIKETAN

CBSE | New Delhi, India
Grad. May 2014
Class XII Board Percentage: 95%
Class X Board CGPA: 9.4/10

COURSEWORK

GRADUATE

Image and Vision Computing
Probability, Statistics and Reliability
Algorithm Design and Analysis
Database Management System
Data Structures and Algorithms
Agent Based Intelligent Systmes
Discrete Mathematics
Theory of Computation
Operating Systems
Computer Networks

MOOC

Machine Learning
- by Prof. Andrew Ng, Stanford University
Applied Data Science with Python
-by Dr. Charles Severence, University of Michigan

SKILLS

PROGRAMMING

Languages:
Python • C++ • C • Matlab
JavaScript • HTML • CSS • Shell
SQL • Assembly
Frameworks and Libraries:
OpenCV • Pandas • SciKit
StatsModels • STL
Tools:
WEKA •Git • MySql
OracleDB • SQLite

EXPERIENCE

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

Summer Intern
Mid-May 2016 – Mid-July 2016 | New Delhi

- Interned at the Institute of System Studies and Analysis.
- Got an in-depth understanding of time-series analysis including concepts like the ARIMA model.
- Worked to create a module in Python designed to act as an independent Decision Support System as well as work in tandem with an existing GIS based geo-mapping and tracking tool.

CURRENT RESEARCH

SOURCE CAMERA IDENTIFICATION

July 2016 – Present | Chennai

Working under the guidance of Dr. S.Geetha in the active field of Digital Image Forensics. The problem statement addressed in my work is the identification of the source camera of a given query image. All implementation is done on MATLAB.
My role comprises:

- Feature extraction from images by applying image processing techniques in the frequency domain,
- To train classifiers based on J48(C4.5) Decision Trees with training sets acquired from popular image databases,
- Comparing existing methods against a novel technique that we are currently working on.

PROJECTS

BARCODE READER

Apr 2015 | Chennai

- Built with the purpose of working in lieu of supermarket queues on customers mobile phones or as standalone devices, logic was prototyped on a laptop.
- Designed to recognize UPC barcodes as a part of a billing program.
- The program was written in C++ using the OpenCV library to load and denoise images, then access intensity values to apply the decoding algorithm to get the article number from the barcode.

PARTICLE COLLISION SIMULATOR

Mar 2016 | Chennai

- Implemented a graphical particle simulator that worked for greater than 500 particles, in Python as well as Java.
- The complexity was brought down to O(nlogn) by basing the algorithm on event-driven programming using minimum heap priority queues.

MODEL AND SIMULATION OF 3D PRINTER

Apr 2016 | Chennai

- Skeletal hardware built using bearing parts, steel rods and acrylic sheets.
- Precise motion was achieved using stepper motors powered by an Arduino Uno Board and Arduino's Stepper Library on C++.

EXTRA CURRICULAR

Completed **DELF-A1** with 94.5% (Diploma in French by Alliance Française de Delhi)
Awarded **Black Belt** in karate by Seigo-Kai Karate Do, Association of India