Vikas Thamizharasan

Personal Data

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Education

2014 - 2018 **B.Tech in Computer Science and Engineering**, *IIIT* , Hyderabad, .

2012 - 2014 **Senior Secondary**, *New Millennium School,DPS*, Bahrain, .

Projects

3D model reconstruction from single/multiple images.
Bachelor's Project under Dr.Vineet Gandhi from CVIT (Computer Vision Lab), IIIT.

Cloth Parser and Fitter, *(2D Virtual Clothing Store)*.
An Augmented Reality based application which contains an unconstrained clothing parser and a fully fledged cloth fitter. An individual uploads a fully body picture onto the application and then can choose any clothing item from any online retail store and fit these clothing items onto his/her picture.Currently implemented purely with Image Processing, using superpixel segmentation,cloth morphing and warping,pose estimation and feature point extraction and image filters.
(2017 Microsoft CFD winning project - team of 3)
Vanilla.js, MATLAB, OpenCV, flask, Scipy, Numpy, JSON.
Demo

Typer Defence.
3D game where the player has to type in words and come up with words/phrases on the fly in order to defeat oncoming enemies, and protect his/her's tower. Each enemy will have a word/phrase associated with it.
Unity game engine, C Sharp, GLSL
Demo

OCREX.
A fast and efficient document capture and processing application.It extracts data from bank, credit card,invoice, online statements or any scanned document and automates the process of extracting the data and storing them in custom templates.

Windows Form App, C Sharp, Tesseract-ocr, MySQL, JSON.
Source

Ultimate Tic-Tac-Toe and Slither.io - AI.
An AI for Ultimate Tic Tac Toe written in Python using self implemented heuristics and alpha-beta and min-max algorithms.
Slither.io AI written in JS.
Source

Online carom game, 3D obstacle game, Animated Movie.
Course Project: Dr. PJ Narayanan(Director, IIITH), Computer Graphics Build Opengl and Webgl games and simulations using Opengl 3+,glfw,soil and various shader libraries as part of Graphics course. Also made an animated movie.

Vshell.
Course Project under Dr.Suresh Purini(Assistant Prof, IIITH), Operating Systems
Linux Shell made from scratch in C.
Source

Image Processing Algorithms Implemented.
Soccer player extraction, Gaussian Pyramids and Laplacian Pyramids for image merging, Bilateral filtering, Twirl transform, Document segmentation, Integral Image area calculation, Tone mapping.

Algorithms and Data Structures implemented in C.
AVL trees, Heaps, Dijkstra's algorithm, BFS/ DFS, Min-max with alpha pruning, Merge Sort, Heap Sort, Quicksort etc.

Typophobe.
Typing Speed Test , Returns WPM and offers custom typing text. Microsoft Code.Fun.Do finalist Hyderabad. Build in JS on Visual Studios.
Download: http://bestwindows8apps.net/app/typophobe
Source

P2P.
Course Project: Dr. Ganesh Iyer(Visiting Faculty, IIITH), Computer Networks A basic P2P file sharing script to send files via TCP/UDP written in Python.
Supports file upload/download with MD5sum checks and indexed searching.

Earthquake Forecasting.
Worked in a team of 20, to build a web application that forecasts earthquakes given a lat-long of any location in India. Also build a hash-tag scraper.
Source

Achievements

2017 **Microsoft Code.Fun.Do Winner Hyderabad**.

2016 **Finished in Top 20 Microsoft Code.Fun.Do All India** - .

2015 **Runner's Up in Microsoft Code.Fun.Do Hyderabad**.

2014 **2400/2400 in SAT Subject Test**.

2013 **Top 5 in WHO Art competition**.

2012 **CGPA: 10/10 in CBSE Board Exams**.

Experience

2016 **Teaching Assistant**, *IIIT Hyderabad*.

2016 **Software Developer**, *Rsquare Technologies*, Bahrain.
Developed a fast and efficient document capture and processing application called OCREX.

2015 **Enhanced edu**, *Student developer*, IIIT Hyderabad, India.
Worked on a Moodle platform based website which provides online courses for tier 2 and 3 colleges in India.
Website
Project .

Courses taken

2017.
Statistical Mechanics in AI (Machine Learning), Computer Vision

2016.
Digital Image Processing: *Rafael Gonzalez*,
Complexity and Advanced Algorithms: *TOC Michael Sipser*,
Computer Graphics,
Artificial Intelligence : *AIMA Norvig, Russell*,
Principles of Programming Languages : *EOPL Friedman*,
Digital Signal Analysis, Database Systems.

2015.
SSAD, Data Structures, Computer Networks
Operating Systems: *Remzi*

Technical skills

Programming Languages	C,C Sharp, C++, Python, Javascript, Shell, MATLAB, Racket/Scheme, HTML and CSS, PHP(basic).
Frameworks	Web2py, Django, Ruby on Rails,Windows Form App
Tools	MATLAB
IDE and editor	Visual Studios,CodeBlocks, Sublime Text
Version Control	Git

Interests

- Art, Sculpting, Drums and Music
- Image Processing,Game Development,Computer Vision,Virtual/Augmented Reality,Web Development,Open Source Development
- Psychology, Philosophy, Cosmology