Rajat Agarwal

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EDUCATION

BITS PILANI
BE (Hons.) Computer Science
MSc (Hons.) Chemistry
May 2018 | Goa, India
CS Major GPA: 8.94 / 10.0
Overall GPA: 7.72 / 10.0

DR. VSEC
High School
May 2013 | Kanpur, India
ISC: 95.0 %
ICSE: 96.6 %

COURSEWORK

Data Structures and Algorithms
Database Systems
Object Oriented Programming
Discrete Structures for CS
Logic in Computer Science
Microprocessors & Interfacing
Probability and Statistics
Computer Programming
(Professional Asst. & Grader)

Ongoing:
Machine Learning
Neural Networks & Fuzzy Logic
Applied Parallel Programming
Principles of Programming Languages
Operating Systems
Computer Architecture
Theory of Computation

Independent:
CNN for Visual Recognition
Artificial Intelligence
Computer Vision and Graphics

SKILLS

WORKED WITH:
C • Java • Python • Shell • PHP • JavaScript • MySQL • Assembly • CUDA • Git

FRAMEWORKS/LIBRARIES:
Node.js • Socket.io • Angular.js • OpenCV • sklearn • TensorFlow • Flask • Docker

LINKS

Github:// **rajat503**
LinkedIn:// **rajat503**

EXPERIENCE

INFIBEAM.COM | Summer Intern
May 2015 - July 2015 | Ahmedabad, India
- Worked on Tomcat, Docker, ELK Stack, Shell and other production tools.
- Explored possibilities and gave recommendations on having a shell in the production environment for a Java web-app written in Struts.

TESSERACT IMAGING | Software Developer
November 2014 - January 2015 | Mumbai, India
- Startup from MIT Media Lab to create a 360 camera.
- Developed a web based viewer to render stitched images and videos in 360.
- Enabled viewing in webGL through gyro sensor and mouse panning.
- Created 360 degree walk-throughs of places by linking images using ray tracing.

RESEARCH

Web Document Clustering
Fall 2015 | Advisor: Mr. R.K. Roul (BITS Pilani Goa)
- Clustering on 20 News Groups dataset using semi-supervised learning.
- Worked with Extreme Learning Machine (ELM) and seeded k-means.

Wisdom of Crowds [1]
Spring 2015 | Advisor: Prof. Sharad Goel (Stanford University)
- Designed tasks to investigate the Wisdom of Crowd effect using crowd sourcing through an online experiment.

PROJECTS

Assignment Autograder and Testing Framework
Spring 2016 | Advisor: Mr. TSRK Prasad (BITS Pilani Goa)
- Deployed for OOP course with 170+ students in Fall 2016.
- Enables instructors to offer real time autograded programming assignments.
- Evaluates the submissions in a distributed environment with load balancing.
- Provides a standard test writing framework in Java for the instructors.
- Implemented in Node.js, Socket.io, Bash, Java and released using Docker.

MNIST Digit Classification
- Used Convolutional Neural Network (CNN) for classification of digits in MNIST.
- Used Adam optimizer for loss and Dropout in fully connected layers.
- Implemented in Python using TensorFlow obtaining 99.53% accuracy.

Selective Color Focus Image Filter
- Application to focus on the dominant color in the selected image part and converting the rest of the image to grayscale.
- Implemented in C++ using OpenCV with erosion, dilation and hue histogram.

Connect4 AI
- AI Bot to play Connect4. Implemented in Java using Minimax tree.

PUBLICATIONS

[1] Investigating the "wisdom of crowds" at scale. In *Proceedings of the 28th Annual ACM Symposium on User Interface Software & Technology*, 2015.