Agastya Seth

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SKILLS

PROGRAMMING
Python
R
MATLAB/OCTAVE
C/C++
Verilog HDL
Java
JavaScript (Node.js)

DEEP LEARNING
OpenCV
TensorFlow
Keras
PyTorch
Caffe

MACHINE LEARNING
SVMs
Regression
Random Forest
Bayesian Belief Networks (BBN)
CNNs
RNNs

SOFTWARE
RStudio
MATLAB (Simulink)
Jupyter
Visual Studio (C/C++)
Xilinks Vivado (HDL)
Cadence Virtuoso
Arduino IDE
Android Studio
Amazon Web Services
Git and Github

EDUCATION

SHIV NADAR UNIVERSITY
Bachelors in Technology
Electronics and Communication
Cum. GPA: 7.92 / 10.0
August 2016-Present | UP, India

STANFORD UNIVERSITY
Summer Session
Data Science | Technology Entrepreneurship
Cum. GPA: 9.5 / 10.0
June 2018 - August 2018 | Stanford, CA

EXPERIENCE

VI DIMENSIONS | CV Intern
May 2019 - July 2019 | Singapore

- Explored various background learning/subtraction models for real-time anomaly detection.
- Created object detection model based on Faster-RCNN for detecting persons and bags in surveillance camera feeds.
- Built a background segmentation model using Hough Transform.

BISQUARE SYSTEMS | IoT Intern
May 2017 – July 2017 | Noida, UP

- Designed **an ESP8266 WiFi microcontroller based IoT module** to put to use in various IoT solutions.
- Designed a mood-light and IR remote control solutions based on the designed module.
- Created AWS Lambda based backend for the smart light solution for remote control of lights.

SILICON VALLEY INNOVATION ACADEMY
June 2018 – August 2018 | Stanford, CA

- Conceptualized a solution to make consumer product production lifecycle more transparent to achieve SDG Goal #17, using Distributed Ledger Technology (DLT)
- Conceptualized a green-score for consumer products based on their ecological footprint the product development lifecycle.
- Developed a platform for users to track their carbon footprint wrt. their daily consumption (electricity, gas, water, products etc.)

PROJECTS

RNBIP | Single Bus Processor Architecture
August 2017 – Present | Shiv Nadar University, India

- Built an 8-Bit Single Bus Processor Architecture using HDL synthesis, and successfully flashed it on Xilinx Artix FPGA (under the guidance of Dr. R.N. Biswas).
- Currently working on building a microcontroller based on the processor - building a compiler and ports for the same.

WORD PREDICTOR USING RNN | Data Mining Course Project
December 2018 | Shiv Nadar University, India

- Built an RNN model (without libraries) to predict the next set of characters given a set of words as inputs (trained on any given book).
- Visualized the back-propogation in time and loss function wrt. the weights.

DELHI PUBLIC SCHOOL, NOIDA
High School
2016 | Noida, UP | Percentage: 95%

KEY COURSES

UNDERGRADUATE
Analog Electronics
Applied Machine Learning
Communication Networks
Control Systems
Data Structures
Data Mining and Applications
Data Analytics in Societal Applications
Digital Communication
Digital Signal Processing
Embedded Systems Hardware
Intro. to Robotics
Linear Algebra
Machine Learning in R
Mathematical Methods I & II
Optimization I
Probability & Statistics
Semiconductor Devices
Signals and Systems
VLSI Technology and Design

INTERESTS

DLT
Technology Entrepreneurship
Computer Vision
Machine Learning / Deep Learning
Robotics
VR / AR
Human Cognition
EDA
Sustainable Development
Music Composition

LINKS

Github:// agastyaseth
LinkedIn:// agastyaseth
Twitter:// @agastya_seth
SoundCloud:// agastyaseth

FACE DETECTION USING EIGENFACES | Linear Algebra Project
May 2017 | Shiv Nadar University, India

- Implemented a face detection model using eigenfaces method.
- In the process, implemented mathematical transforms using Matlab, without libraries.

SEQUENCE-TO-SEQUENCE ABSTRACTIVE TEXT SUMMARIZATION | Personal Project
December 2018

- Implemented a sequence-to-sequence RNN model for abstractive text summarization according to this paper.
- Improved the above model by using pointer-generator network in accordance to this paper.

ACHIEVEMENTS

GOOGLE SCIENCE FAIR 2014 | Regional Finalist
September 2014 | India

- Built an Android app to empower farmers with real-time crop prices.
- Idiot-proof UI to enable illiterate farmers to obtain location-pertinent crop information using TTS in the vernacular language.

SMART INDIA HACKATHON 2019 - HARDWARE | Winner
July 2019 | India

- Built a solution for EV to mitigate range anxiety
- Developed algorithms to predict range of an EV and optimize the same.
- Dashboard to send driver pertinent notifications for optimization, and route navigation.

TRINITY GUILDHALL LEVEL 5 | Electronic Keyboard
May 2014 | Trinity College, London

SOCIETIES

ROBOYANTRIKI | Robotics Society
Working Committee | September 2016 - present

- Conducted various intra-university workshops on Arduino, IoT etc.
- Worked on an affordable blind-aid robot using Arduino and various sensors.

SNUPHORIA | Music Society
Working Committee | September 2016 - present

- Conducted piano lessons for university students through Student Mentorship Program (SMP).
- Worked with the marketing team to promote club awareness.

REFERENCES

MR. RAMENDRA BAONI | Bisquare Systems
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