

# 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++)  
Xilinx 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 - Present | Singapore

- Explored various background learning/subtraction models for real-time anomaly detection.
- Created object detection model and classifier based on Faster-RCNN for surveillance camera feeds.
- Currently exploring segmentation schemes for background detection.

### 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-propagation 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.

### MACHINE LEARNING MOOC | COURSERA

July 2017 | Stanford University | Total Grade - 96%

### TRINITY GUILDHALL LEVEL 6 | ELECTRONIC KEYBOARD

May 2014 | Trinity 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

Member | September 2016 - present

## REFERENCES

### PROF. R.N. BISWAS | DEPARTMENT OF ELECTRICAL ENGINEERING

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### MR. RAMENDRA BAONI | BISQUARE SYSTEMS

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