

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

DELHI PUBLIC SCHOOL, NOIDA HIGH SCHOOL

2016 | Noida, UP | Percentage: 95%

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

MASSIVE MIMO CHANNEL ESTIMATION | MAJOR PROJECT - I

August 2019 - Present | Shiv Nadar University, India

- Currently working on exploring various deep learning techniques for Massive MIMO channel estimation to minimize pilot contamination and channel noise (under the guidance of Prof. Vijay Kumar Chakka)
- Explored a DIP-based (Deep Image Prior) DNN architecture for denoising the received signal (Balevi et al) [↗](#)

SKIN CANCER CLASSIFICATION | DEEP LEARNING COURSE PROJECT

August 2019 - Present | Shiv Nadar University, India

- Exploring and evaluating various state-of-the-art deep learning techniques for skin segmentation. (under the guidance of Prof. Niteesh Sahni)
- Focused on building an explainable model to be able to explain the diagnosis by using various XAI algorithms like GradCam++

KEY COURSES

UNDERGRADUATE

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

INTERESTS

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

LINKS

Github:// [agastyaseth](#)
LinkedIn:// [agastyaseth](#)
Twitter:// [@agastya_seth](#)
SoundCloud:// [agastyaseth](#)

RESTAURANT DEMOGRAPHICS ANALYTICS | COURSE PROJECT

December 2017 | Shiv Nadar University, India

- Using K-means clustering and other manipulations, predicted the success (rating) of a new restaurant given various parameters like location, cuisines, price range etc.
- The model further recommended the optimal location, costs, cuisines etc. required to build a successful restaurant.
- We further visualized trends among various locations based on price ranges and food habits in order to curate and cater for different demographics. [↗](#)

RNBIP | SINGLE BUS PROCESSOR ARCHITECTURE

August 2017 – August 2018 | 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). [↗](#)
- Explored possibilities for building a micro-controller based on the processor - building a compiler and ports for the same.

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

DR. RAJEEV KUMAR SINGH | ADVISOR, DEPARTMENT OF CS

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