

# KARTIK AGGARWAL

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## EDUCATION

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**NSIT, University of Delhi**

2016-2020

B.E. , Manufacturing Production and Automation Engineering

CGPA : 8.04

**Jesus Mary Joseph Sr. Sec. School, Delhi**

2008-2015

CBSE XII (PCM): 90.2%, — CBSE X: 9.2 CGPA

## PUBLICATIONS

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**NSIT@NLP4IF-2019: Propaganda Detection from News Articles using Transfer Learning**

*NLP4IF, EMNLP-IJCNLP, Hong Kong*

2019

**MIDAS at SemEval-2019 Task 9: Suggestion Mining from Online Reviews using ULMFit**

*SemEval, NAACL, Minnesota USA*

2019

**Design and Analysis of Adaptive Graph based Cancelable Multi-Biometrics Approach**

*Under peer review*

2020

## WORK EXPERIENCE

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**Scientific Analysis Group, DRDO, Delhi**

August 2018–Jan 2019

*Research Intern*

*Supervisor: Dr. Gurjit Walia*

- Proposed a novel multimodal biometric system using a graph-based fusion approach.
- Our system achieves state-of-the art performance with average EER of 0.15% on two iris databases.
- **Topics:** Multimodal Feature Fusion, Iris Recognition, ResNet, Unified Graph Fusion

**CampK12, Delhi**

May 2019–July 2019

*AI instructor*

- Taught machine learning and computer vision to high school students offline. Designed and recorded an online video course covering Python, Computer Vision and ML.
- Organised a live AI using python session every week.
- **Tools Used:** Python, OpenCV, Keras, Flask

**Shopnani**

August 2017

*Full Stack Developer*

- Responsible for all aspects of IT planning and implementation for ShopNani.com
- Developed interactive and dynamic website using MEAN stack and various other services that ensured high traffic, page views and quality User Experience.
- **Tools Used:** Node.js, Express, Angular, MongoDB, REST API

## PROJECTS

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**Deep Android Malware Analysis**

June 2018

*Mentor: Sumit Kumar, DRDO*

- Built a CNN based malware detection system to detect malware in android apps using static analysis.

- Apps were decompiled to obtain features and the system achieved 78% accuracy in classifying apps as malware or benign.
- **Topics:** Deep Learning, Android Architecture, Static/Dynamic Analysis

### Music Recommendation System

Dec 2017

*Mentor: Dr. Vikas Maheshkar, NSIT*

- Built a Content Based Music Recommendation System using language features. Songs were recommended using similarities between word vectors by trying to minimize the KL-divergence between joint probabilities using t-SNE.
- Worked on Audio Analysis using timbral and pitch feature extraction methods such as pitch spectrogram, MFCC, spectral contrast etc.
- **Topics:** NLP, Conditional Probability, Dimension Reduction, Audio Feature Extraction

### Visual Question Answering

June 2017

*Self Project*

- Built an open-ended visual question answering (VQA) model that produces answers to arbitrary text-based questions about images.
- Model used a two-layer LSTM to extract language features and VGGNet to extract image features which are combined to train a CNN-LSTM model.

### Conversational Chatbot

December 2016

*Self Project*

- Designed a chatbot using Django to play pokemon game and have small conversations.
- Deployed the bot on Facebook Messenger using Facebook Graph API.
- **Tools used:** Django, REST APIs for NLP, Facebook Graph API

## TECHNICAL STRENGTHS

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<b>Programming</b>	C++, Python, Matlab, MySQL, Javascript
<b>Frameworks &amp; Libraries:</b>	PyTorch, Keras, Fastai, Django, Numpy+Scipy, MEAN Stack, L <sup>A</sup> T <sub>E</sub> X
<b>Certifications:</b>	Machine Learning, Data Structures, Django
<b>Coursework:</b>	Linear Algebra & Calculus, Probability & Statistics, CS224d, Fastai

## ACADEMIC ACHIEVEMENTS

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<b>Rank-10</b>	Suggestion Mining from Online Reviews and Forums, SemEval-2019
<b>Rank-1</b>	CB Hackathon, Hackerank, 2016
<b>Rank-2</b>	Web Development Hackathon, CSI-NSIT, 2016

## POSITION OF RESPONSIBILITIES

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<b>Mentor (Machine Learning)</b>	<i>AI Saturdays, Delhi</i>
<b>Technical Head</b>	<i>Ecell NSIT</i>
<b>Web Developer</b>	<i>Collegespace, NSIT</i>