

KARTIK AGGARWAL

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EDUCATION

NSIT, University of Delhi 2016-2020
B.E. , Manufacturing Production and Automation Engineering CGPA (upto sem 5) : 7.94

Jesus Mary Joseph Sr. Sec. School, Delhi 2008-2015
CBSE XII (PCM): 90.2%, — CBSE X: 9.2 CGPA

PUBLICATIONS

MIDAS at SemEval-2019 Task 9: Suggestion Mining from Online Reviews using ULMFit
Minneapolis, Minnesota USA
Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL 2019)

Design and Analysis of Adaptive Graph based Cancelable Multi-Biometrics Approach
Under peer review at IEEE Transactions on Systems, Man, and Cybernetics: Systems 2019

WORK EXPERIENCE

Scientific Analysis Group, DRDO, Delhi August 2018–Jan 2019
Research Intern *Supervisor: Dr.Gurjit Walia*

- Proposed a novel multimodal biometric system that combines deep learning with Unified Graph based feature fusion to exploit complementary information from iris and periocular modalities.
- 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 2018–Present
AI instructor

- Responsible for teaching machine learning and computer vision to high school students.
- Planned a complete curriculum and developed tools required for teaching AI to students.
- 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

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

- Developed a small talk conversational chatbot for facebook messenger built using DJANGO.
- The chatbot used NLP API's to enhance the answering skills.
- **Tools used:** Django, REST APIs for NLP, Facebook Graph API

TECHNICAL STRENGTHS

Programming	C++, Python, Matlab, MySQL, Javascript
Frameworks & Libraries:	PyTorch, Keras, Fastai, Django, Numpy+Scipy, MEAN Stack, L ^A T _E X
Certifications:	Machine Learning, Data Structures, Django
Coursework:	Linear Algebra & Calculus, Probability & Statistics, CS224d, Fastai

ACADEMIC ACHIEVEMENTS

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

POSITION OF RESPONSIBILITIES

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