Nidhin Harilal

Junior Undergraduate
Discipline of Computer Science and Engineering
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EDUCATION

Indian Institute of Technology, Gandhinagar — *August 2017 - Present*
B.Tech. in Computer Science and Engineering — Overall GPA: 8.42 /10

Pragati Public School, Kota — *2016 - 2017*
Intermediate / +2 (CBSE affliated) — Overall Percentage: 90.4 /100

DAV Public School, Surajpur — *2013 - 2014*
Matriculation (CBSE affliated) — Overall GPA: 10 /10

KEY RESEARCH / ACADEMIC PROJECTS

Deep Learning based Statistical Downscaling for Climate Projections — June 2019 - Present
Prof. Udit Bhatia — *Summer Research*

· The spatiotemporal nature of the climate system motivates the adaptation of deep learning approaches.
· Critiqued & found the problem of Concept Drift with current Deep learning approaches in downscaling.
· Designed a Convolutional LSTM based architechure considering both spatial and temporal domains which has performed significantly better than current approaches over the Indian region.

CARO: An Empathetic Chatbot for People with Major Depression — Aug 2019 - Present
Prof. Mayank Singh — *Academic Project, Natural Language Processing*

· CARO is an attempt to tackle problems of the generalized health or monotonic responses associated with the current implementations of health/ counselling chatbots.
· Designed parallel LSTM based dialogue-model, stacked with an embedded emotion and intent classifier.
· CARO is an ensemble of an empathetic response generation and a medical advice answering model leading to a medical counselling based implementation.

Simulating Brownian motion from unpredictability in quantum realm — Oct - Nov 2018
Prof. Krishna Kanti Day — *Academic Project, Physics Lab*

· Investigated the phenomenon of Quantum Tunnelling and designed a emitter reverse biased transistor circuit for generating random output. Unbiased the output by using Von Neumann decor-relation.
· Verified the randomness of output using tests such as Chi-squared and the Monte Carlo pi test. Also, Developed a simulation of Brownian motion using the random bits generated as displacement in Python.

INDUSTRIAL EXPERIENCE

Capgemini Technology Services Pvt. Ltd. — May 2019
Machine Learning Intern

· Analyzed Facenet neural network architecture for Face Recognition from video frames of a scene using a stored database of faces with the constraint of training 'one sample per person'.
· Built a scalable web-app Dashboard based on nodejs and flask which was integrated with Face detection model. Developed dashboard included feautures such as live face update for unrecognized faces, synchronous training of the model, recognition with cloud update. Firebase was used as a cloud database.

OTHER KEY PROJECTS

Personal Assistant(Chatbot)
Dec 2018

Hackathon, Inter IIT Tech Meet 2018, IIT Bombay

Developed a Personal Assistant Chatbot which will notify people to take medicines on time based on doctor's prescription along with the feature of custom notifications. Additionally, Integrated features such as Live railway PNR status and railway availability.

POHAR- Post Cyclone Aiding System
Nov 2018

Coding Hackathon Team Selection, IIT Gandhinagar

Developed a Post Cyclone Aiding System which helps to identify safe areas and hospitals with shortest routes in flood/cyclone hit areas. Integrated features such as availability of resources in safe zones with live update. Integrated a feedback system for obtaining status about various affected regions.

POSITIONS OF RESPONSIBILITY

Deep Learning Group, Metis - The Coding Club
Aug 2019 - Present

Core Mentor and Project Lead

Hackrush: IIT Gandhinagar's annual Hackathon
Nov 2018 - Feb 2019

Core Organizer and Question stakeholder

Academic Council, IIT Gandhinagar
Sept 2018 - Aug 2019

Coordinator of Class Representatives and Course Feedback

Academic Discussion Hours
Aug 2018 - Dec 2018

Teaching Assistant for Computing ES112, Introduction to Computing ES102

Class Representative
Aug 2017 - Sept 2018

Discipline of Computer Science, Freshman Year

OTHER SKILLS AND QUALIFICATIONS

Languages	Python, C, Javascript, HTML/CSS
Frameworks	Tensorlflow, Keras, PyTorch(Novice), Flask, Django, NodeJS
Other Tools	Git, LaTeX, Arduino

KEY COURSES UNDERTAKEN

Computer Science	*Natural Language Processing, *Theory of Computing, *Operating Systems, *Digital Image Processing, Discrete Maths, Data Structures and Algorithms., Computer Architecture, Computing (Python)
Mathematics	Probability, Statistics and Numerical Methods, Complex Analysis, Calculus, Linear Algebra and Differential Equations

* to be completed by Dec '19

KEY ACHIEVEMENTS

∗ Paper- 'CARO: An Empathetic Chatbot for People with Major Depression' accepted in International Conference on Data Science and Management of Data, 2020. (Hyderabad)

∗ Recipient of Dean's List: 2017-18 Sem II, 2018-19 Sem III, awarded by IIT Gandhinagar for excellent academic performance.

∗ Qualified BBC Fighting Fake News Hackathon. (Google, Gurugram) (2018)

∗ Winner of CBSE All India Annual Science Exhibition (Mount-Abu College, Delhi) (2014)