

WINS GOYAL

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EDUCATION

University of Florida, Gainesville, Florida

Aug 2019–Dec 2020

Master of Science - Computer Science, Herbert Wertheim College of Engineering

GPA: 3.89/4.0

- *Courses:* Distributed Operating Systems, Analysis of Algorithms, Database Systems and Implementation, Mathematics for Intelligent Systems, Machine Learning, Projects in Data Science

Indian Institute of Technology (IIT) Jodhpur, Rajasthan, India

July 2011–May 2015

Bachelor of Technology, Computer Science and Engineering

- *Relevant Electives:* Complex Networks, AI & Pattern Recognition, Image Processing, Neuroscience

TECHNICAL SKILLS

- **Proficient:** Python, C++, Java, Elixir, Ruby, PostgreSQL; **Familiar:** JavaScript, JSON, MATLAB, HTML/CSS
- **Framework/platforms:** Anaconda, Django, Phoenix, Ruby on Rails, AWS S3/CLI, RTOS, Bitbucket, Git
- **Machine Learning lib.:** TensorFlow, Keras, PyTorch, OpenCV2, Numpy, Scikit, Pandas, Matplotlib, PIDs

PROFESSIONAL EXPERIENCE

Jr. Research Engineer, IoTSPACE Pvt. Ltd., Maharashtra, India

Jan 2018–Apr 2019

- Evaluated IoT based product designs and the execution of the *Mesh & MQTT* based networking app.
- Solved *brown-out memory flush* issues, and implemented heuristic failure tolerance on Raspberry Pi 3.

Software Engineer, Voylla Fashions Pvt. Ltd., Rajasthan, India

May 2015–Dec 2016

- Developed '*Virtual Try-On*' - interactive web-app to virtually try jewelry online - using *HTML5 Canvas & Object-tracking JS frameworks*. Devised optimal **Data Centralization process** by ELT/ETL mechanisms.
- Implemented automation of accurately fitting Jewelry images on Model images using AWS S3, standardizing **Image-processing** through synchronized *Python, Ruby, AWS CLI, Photoshop Action Scripts* and *Shell scripts*.
- Worked on *backend/frontend optimizations* including data-indexing & garbage-collection issues.

GRADUATE RESEARCH WORK

Algorithms for Plant Phenotyping, Machine Learning & Sensing Lab

Mar 2020–present

- Devising optimal algorithms to extract & analyse roots length, density, contours and structure using OpenCV, Scikit, Variational Auto-encoder (VAE) and Markov Decision Processes (MDP).

Hypotheses Generation, Data Science Research Lab [\(view\)](#)

Jan 2020–present

- Designed evaluation metrics for Query Inferencing over DARPA provided Knowledge Base (KB) using *pre-trained Embeddings & TF-IDF scores*. Appended topK-coherent predicates to XML file.
- Automating summary generation for graphs created from DBpedia articles using *Seq2Seq with attention*.

PERSONAL / ACADEMIC PROJECTS

Ensemble Learning model for Optical Character Recognition [\(view\)](#)

Course Project, Fundamentals of Machine Learning, University of Florida

Nov 2019–Dec 2019

- Enhanced the preprocessed input by extracting character contours using **shape-context descriptor algorithm**.
- Achieved ~96% recognition accuracy implementing KNN model fed with PCA-applied character images.

Actor Model Applications in Distributed Systems [\(view\)](#)

Projects in Distributed Operating Systems, University of Florida

Sep 2019–Dec 2019

- Implemented paper on '**Resilient Tapestry Overlay**' using backpointers incorporated distributed hash-tables.
- Evaluated '**Gossip Algorithm**' on different large scale network topologies. Established web-sockets with Genserver-Supervisor architecture for Twitter Engine simulator using ETS Storage and Phoenix framework.

Self Driving Car Engineer [\(view\)](#)

Jan 2017–Dec 2018

- Traffic Sign Classifier, Behavioral Cloning, Extended Kalman Filters, Kidnapped Vehicle, Feedback system

Drug-Similarity & Drug-Target Interactions Models

B.tech Final Year Project, IIT Jodhpur

Aug 2014–Apr 2015

- Programmed a model to classify Drug-targets & analyzed Jaccard, J++ indices with RoC curves, significantly reducing Drug Pipeline Process and creating accurate metrics of predicting Drug Repositioning.

ACHIEVEMENTS / AWARDS

#UdacityKPITScholar: Achieved Scholarship for 'Self Driving Car Engineer' nanodegree

Jan 2017–Dec 2018

Merit-cum-Means Scholar: Achieved tuition fee waiver for best Academic performance

Jul 2012–Apr 2013

EXTRA-CURRICULAR

- **MOOCs (Audits):** Deep Learning Specialization Course (Coursera), Underactuated Robotics by MIT (Edx)
 - Undertook project on '*Anatomical Brain Segmentation*' as part of the course (citing Qure.ai blog), 2017–2018
- Pioneered *First Robotics Summer Camp* at IIT Jodhpur in Summer 2013 for 8 interdisciplinary teams
- Obtained hands-on practice on MEMS, Actuators in '*Mechatronics and Robotics*' course by IIT Indore (July 2013)