WINS GOYAL

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EDUCATION

University of Florida, Gainesville, Florida *Aug 2019–May 2021*
Master of Science - Computer Science, Herbert Wertheim College of Engineering *GPA: 3.8/4.0*
- *Courses:* Distributed Systems, Algorithms, Database Systems & Implementation, Network Data Streaming, System Design, Machine Learning, Projects in Data Science, Computer Networks

Indian Institute of Technology (IIT) Jodhpur, Rajasthan, India *Jul 2011–May 2015*
Bachelor of Science, Computer Science and Engineering
- *Courses:* Complex Networks, AI & Pattern Recognition, Image Processing, Operating Systems

PROFESSIONAL EXPERIENCE

Jr. Research Engineer, **IoTSPACE Pvt. Ltd.,** Maharashtra, India *Jan 2018–Apr 2019*
- Enhanced data security by ~80%, by encoding the *MQTT* protocol over a Mesh topology of IoT products.
- Solved *brown-out memory flush* and failure tolerance issues to prevent data loss on Raspberry Pi 3 & Arduino.

Software Engineer, **Voylla Fashions Pvt. Ltd.,** Rajasthan, India *May 2015–Dec 2016*
- Lead a team of 3 in developing an interactive webApp - '*Virtual Try-On*' - to virtually try jewelry online.
- Devised a **Data Centralization process** by ETL mechanisms to act as feed to the Data Visualization tools.
- Automated and standardized ~70% of the image-editing task of accurately fitting Jewelry images on Model images increasing the output of the Image-processing team *from 100 images/day to 1000 images/day.*

RESEARCH EXPERIENCE

EdgeVPN (Open Source), *Adv. Computing & Info. Systems (ACIS) Lab* *May 2020–Aug 2020*
- Integrated latest stable version packages of Tincan and WebRTC to EdgeVPN (*a P2P-based decentralized VPN software in C++ & Python*). Tested & modified existing class methods as per the upgraded packages.
- Re-designed the WebUI and Webservice for the visual simulation of Software testing (*Flask, React & Node*).

Graph-to-text Representation, *Data Science Research (DSR) Lab* *May 2020–Aug 2020*
- Implemented Variational Auto-encoder with Attention based Seq2Seq models to measure the accuracy of Sentence-Triples-Sentence conversion using *SpaCy, NLTK, OpenIE & pySpark* on large Wiki Dumps.

Hypotheses Generation, *Data Science Research (DSR) Lab* *Jan 2020–Apr 2020*
- Designed evaluation metrics for Query Inferencing over DARPA provided Knowledge Base (KB) generating more coherent and generalized hypotheses using *pre-trained Embeddings* & *TF-IDF scores*.

PROJECTS

Unix-based Network File System (NFS), *Principles of Computer System Design* *Sep 2020–Dec 2020*
- Emulated a fault-tolerant multi-server RAID-5 like RPC-based NFS with RSM locks for race-conditions.

Network Traffic Measurement, *Network Data Streaming* ⬈ *Sep 2020–Nov 2020*
- Quantified packet-loss and examined sampling on b- and c-sketches (Bloom Filters, Active Counters, CountMin).

Database Engine, *Database Systems Implementation* *Jan 2020–Apr 2020*
- Created a single-user Database Management System supporting SQL and relational-algebraic operations.
- Developed modules like DB Files with heap and sorting, and lexer-parser for query evaluation and optimization.

Ensemble Learning model for Optical Character Recognition ⬈ *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.

Tapestry-style P2P Network & Twitter Clone Simulation ⬈ *Sep 2019–Dec 2019*
- Implemented the paper on '*Resilient Tapestry Overlay*' using DHTs with backpointers for a 10000-node net.
- Analyzed '*Gossip Algorithm*' on various network topologies of >8000 nodes. Evaluated twitting and querying on Twitter-clone by a 1000-actors net using Web-sockets, ETS Storage, and Phoenix framework.

SKILLS

- **Languages / Web:** *Python, C++, Java, Scala, Elixir, Ruby, Go, JavaScript ES6, React, Node, HTML/CSS*
- **Frameworks:** *Django, Spring MVC, Docker, Junit, Kubernetes, REST, Flask, Gtest, DialogFlow, Jupyter*
- **Database:** *MongoDB, PostgreSQL, Kafka, Spark, ETL, MySQL, Cassandra, Airflow, AWS S3, Google Cloud*
- **ML / NLP:** *SpaCy, OpenIE, Numpy, Scikit, Pandas, NLTK, TensorFlow, PyTorch, OpenCV2, Matplot*

LEADERSHIP & EXTRA-CURRICULAR

- *Mentor (SwampHacks)*, annual hackathon at University of Florida *2020*
- *General Secretary, Design & Arts Society* at IIT Jodhpur, elected by 1000 students *2013-2014*
- *Chief Organizer, 1st Robotics Summer Camp* at IIT Jodhpur funding 8 interdisciplinary teams *2013*
- *1st Runner-up team in Micro-Air Vehicle (MICAV)* national competition by DRDO & NAL *2012-2013*

ACHIEVEMENTS

Outstanding International Student Award by UF for continued involvement & contributions in Univ. *Nov 2020*
#UdacityKPITScholar: Achieved Scholarship for '*Self Driving Car Engineer*' nanodegree *May 2017*