

# Ishan Khatri

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## Education

**PVAMU (Prairie View A&M University)**

Prairie View, Texas, USA

**PhD in Electrical & Computer Engineering**

4.00/4.00, January 2020 - January 2023

**PVAMU (Prairie View A&M University)**

Prairie View, Texas, USA

**Masters in Electrical & Computer Engineering**

3.83/4.00, August 2015 - May 2019

**LDCE (Lalbhai Dalpatbhai College of Engineering)**

Ahmedabad, India

**Bachelor in Electrical Engineering**

3.00/4.00, August 2008 - June 2012

## Publication

2019 **IEEE, NAPS 2019**, Short-Term Load Forecasting on smart meter via deep learning.

WSU

2019 **IEEE, TPEC 2020**, MILP based Optimal Load Scheduling in Microgrid considering forecast data. (Submitted)

TAMU

2019 **IEEE, TBD**, Adaptive & frequency independent real-time load shedding algorithm for microgrid protection. (In draft)

TBD

## Professional and Academic Research Experience

**Center of Excellence System to Enhance Cybersecurity for University Research Environment**

Prairie View A&M University, USA

**Graduate Research Assistant - Thesis, Funded by NSF**

Jan 2020 - Present

- Reserch on cybersecurity in Smart Grid and research in wireless communication.

**Power Services Inc.**

Tomball, TX

**Electrical Design Intern**

Sept 2019 - Dec 2019

- Building the electrical & control drawings by researching the documentation on electrical & instrumentation standards and skid packages.
- Transforming existing electrical parts and turning to drawings using software tools to understand the packages better.
- Creating, machine control, industrial I/O, complex circuit design logic as per IEC 61131.

**Information Technology Services**

Prairie View A&M University, USA

**Graduate Assistant**

June - Aug 2016, Aug 2017 - May 2019

- Enhanced and provided excellent Cisco Unified Communication and Networking solutions (7XXX and 8XXX series phones, Catalyst 6500 Series switches, 1800, and 1900 series routers) to the university police department and on-campus users.
- Developed several python scripts to perform the migration of office 2010 users with voice mail to office365 on Cisco Call Manager database.
- Helped security team for security audits by extracting data by SQL queries from multiple databases, visualized in Tableau dashboards.
- Saved thousands of dollars by useful hardware and software debugging skills. Created technical documentation using tools such as LATEX, Visio.

**Center of excellence in Research and Education for big military Data Intelligence (CREDIT)**

Prairie View A&M University, USA

**Graduate Research Assistant - Thesis, Funded by U.S. Dept. of Navy**

September 2016 - July 2017

- Developed load forecasting models based on deep learning on a large data set (15 billion+ records of data samples) on individual consumers to facilitate the electric utility in optimizing energy demand and supply.
- Build multi-class classifier models based on DL and ML algorithms including LR, SVM, KNN, DT, and RF to classify the best plan by their energy usage.

**Center for Energy and Environment Sustainability and Naval Reserve Officers Training Corps**

Prairie View A&M University, USA

**Graduate Research Assistant (Funded by NSF) and Tutor**

October 2015 - May 2016

- Executed research-based on LCA of energy generated from different sources such as coal, nuclear, geothermal, and wind.
- Modeled forecasting of Houston-area Air Quality based on deep learning.
- Succeeded in raising student's grades from 60% to 90% to secure the NROTC Scholarship by providing tutoring for physics & mathematics courses.

**Patel Electricals**

Waghodia, India

**Quality and Test Engineer for Power and Distribution Transformer**

July 2012 - July 2015

- Lead a team of 6 engineers for performing routine, special tests, assembling and commissioning of power & distribution transformers up to 1600 kVA.
- Managed inventory of raw materials for the transformer manufacturing and repairs as per IS/IEC Standards.
- Designed 3 phase transformers up to 500 kVA and Coded PLC programming with RSlogix 500 and Allen Bradley for private clients.

**Project:** Contract for Madhya Gujarat Vij Company Limited (State Power Utility) MGCVL

## Notable Projects

- Deployed inference models to perform object detection and classification of 98 classes at 20 FPS on Nvidia TX2 over DJI drone.
- Performed NLP on Twitter data for POS tagging, tweet classification based on sentiment analysis.
- Developed Android application using Android Studio with the context of User's location privacy for Computer Network Security course.
- Optimal scheduling and line congestion analysis in Microgrid to offset peak demand using AMPL on CAISO data. **(Self-funded.)**
- Adaptive & frequency-independent real-time load shedding algorithm for microgrid protection. **(Self-funded.)**
- Energy Management With Zigbee with to reduce energy management for a residential-commercial building.
- Generated & analyzed different types of codes: Hamming code, Convolutional code using MATLAB as a part of projects in Coding Theory.

## Certification & Licence

2019 **Level 4**, Criminal Justice Information System Security & Awareness Training

US

2013 **Supervisor**, Electrical Supervisor License from Government of Gujarat.

Gujarat, IND

2011 **1st Place**, Terminator Androids at the national level technical symposium "PRAKARSH '11

SVIT, IND

2011 **2st Place**, BATTLE BOTZ" at the national level technical event "FOOT PRINTS XI

MSU of Baroda, IND

## Skills

C, C++, Python, R, SQL, LATEX, AMPL, Keras, Tensorflow, PySpark, Pandas, Weka, Tableau, Power BI, Shiny, ggplot2, matplotlib, seaborn, Plotly, MATLAB, Mathematica, Ladder Logic IEC 61131, LabView, PLC, IEC 61850, AutoCAD, Solid Works, Amazon SageMaker, GCP, Cisco call manager, UCCX, Unity, Routing, and Switching, TCP/IP, DNS, UDP, DNP3, Linux, Docker, Raspberry Pi, Arduino, Git, HTML, soldering electronic circuits, UART, RTOS, Power system protection