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Gopal Chitalia

Education

2015 – 2020 **International Institute of Information Technology, Hyderabad**, *B.Tech & MS by Research*.

Achievements

- Recipient of **Dean's academic excellence Award** for Year 2018 & 2019.
- Recipient of **Dean's Research Award** for publishing **two A*** journal papers in **Nature & Applied Energy** journals.
- Reviewer of **Applied Energy Elsevier** which is a peer-reviewed academic journal with an impact factor of **9.746**.
- Qualified in Top 1% in **JEE MAIN** 2015 among around 1.3 million students and Top 5% in **JEE ADVANCED** 2015.
- **Top Rated** on **Upwork**. Have worked for **1750+ Hours**.
- **Mentor** at **Codementor**.
- Secured **second** position in the **Chess** Championship (2018) at IIIT.

Publications

- **Gopal C.,** Manisa P., Vishal G., Saifur R., **Robust short-term electrical load forecasting framework for commercial buildings using deep recurrent neural networks**, Applied Energy, Volume 278, 2020. https://doi.org/10.1016/j.apenergy.2020.115410
- Pipattanasomporn, M., **Chitalia, G.**, Songsiri, J. et al. CU-BEMS, **Smart building electricity consumption and indoor environmental sensor datasets**. Sci Data 7, 241 (2020). Nature Scientific Data. https://doi.org/10.1038/s41597-020-00582-3

Work Experience

December 2021 - Present **ML Scientist/Energy Demand Expert**, *Growthworks.ai*, CA, USA.
- Developed Deep learning algorithms for predicting demand at CAISO region.
- Designed and developed a pipeline to extract information from large scale data.

June 2021 - September 2021 **Algorithmic Trading Developer**, *Tantra Labs*, Los Angeles, USA.
- Worked on portfolio analysis to measure market impact of algorithm, comparing live algorithm to test.
- Coordinated with trading teams for implementation of automated trading strategies and execution of algorithms.
- Assisted in designing, development and testing of applications in collaboration with trading teams.

March 2020 - March 2022 **Machine Learning Engineer**, *ClevAir*, Stavenger, Norway.
- Developed Machine learning models using RNN/LSTM for predicting day ahead building level energy consumption which helps in optimizing building operations and energy savings.
- Developed algorithm for automating clustering of building level sensor data.

July 2019 - Present **Research Assistant**, *Smart Grid Research Unit*, Bangkok, Thailand, Mentored by Prof. Manisa Pipattanasomporn.
- Developed a platform for load forecasting as a service.
- Developed a smart building energy consumption and indoor environmental sensor dataset. This work has been accepted in Nature Scientific Data Journal

January 2018 - June 2021 **Research Assistant**, *Center for IT in Building Science*, IIIT Hyderabad, Mentored by Prof. Vishal Garg.
- Developed a machine learning based methodology for building level-load foreacasting. This work has been accepted in Applied Energy Elsevier Journal

January 2019 - May 2019 **Research Intern**, *Machine Learning Lab*, IIIT Hyderabad, Mentored by Prof. Praveen Paruchuri.
- Worked on reinforcement learning application for Demand Response applications in Smart Grid on Building & controlling HVAC systems for energy efficiency.

Novem. 2018 - December 2018 **Machine Learning Intern (Research)**, *Center for Energy and Environment*, MNIT Jaipur, Mentored by Prof. Jyotirmay Mathur.
- Worked on methods of predicting time ahead *heating/cooling* energy demand in office/residential buildings for *DOAS* System.

August 2016 - December 2016 **Software Development Intern**, *Progress Software*, Hyderabad.
- Built a mobile application for the web counterpart. Prototyped and developed the overall back-end of the application. The project was developed using NativeScript, TypeScript along with HTML/CSS/JS and RESTful API's.

Major Projects

SQL Engine *Mentor: Dr. Vikram Pudi (Professor, IIIT Hyderabad)* *(Individual Project)*
- Built an emulation of an SQL engine in Python which took SQL commands as input, and using given database, provided the related output. Implemented query parsing, syntax error detection, and data integrity maintenance from scratch.

WikiPedia Search Engine *Mentor: Dr. Vasudev Varma (Professor, IIIT Hyderabad)* *(Individual Project)*
- Designed a scalable and efficient search engine using **70GB** of Wikipedia data. The search engine outputs the top certain relevant documents based on the search query.

Variational Autoencoder *Mentor: Dr. Vineet Gandhi (Assistant Professor, IIIT Hyderabad)* *(Team of 4)*
- The project aimed to construct a Variational Auto-Encoder(VAE) based neural network for image generation. A comparative analysis of this architecture with various parameter tweaks was done on **MNIST, CIFAR10 and CALTECH101** dataset.

Smart Bank *Mentor: Dr. Sujit Gujar (Assistant Professor, IIIT Hyderabad)* *(Individual Project)*
- A smart contract that performs most of the functions of a traditional bank written in solidity.

Most Relevant Courses

Computer Programming, Data Structures, Reinforcement Learning, Algorithms, IT Workshop I & II, Introduction to Databases, Database Systems, Structured System Analysis and Design, Statistical Methods in Artificial Intelligence, Linear Algebra, Optimization Methods, Compilers, Algorithms and Operating Systems, Distributed Systems, NLP Applications

Technical Skills and Experience

OS GNU/Linux, Windows

Languages C, C++, Python, Matlab

Scripting Python, Bash

Web Tech. HTML, CSS, JavaScript, Web2py, Django, Flask

Others MySQL, Version Control(git), LaTeX, Selenium, Solidity, Kibana