

Gopal Chitalia

 GitHub |  LinkedIn |  gnchitalia86@gmail.com |  Codementor |  Google Scholar

EDUCATION

Purdue University

Graduate Student in CE

IIIT-Hyderabad

Bachelors of Technology And Masters By Research in IT

August 2023 – Present

Current GPA: 3.90/4.0

August 2015 – July 2019

GPA: 8.03/10.0

COURSEWORK & TECHNICAL SKILLS

Relevant Coursework: ML for Power System Optimization, Reinforcement Learning, Intro to Machine Learning, Data Structures & Algorithms, Database Systems, Information Retrieval and Extraction, Optimization Methods, SSAD

Languages: Python, C/C++, Matlab, Bash, JavaScript/TypeScript, HTML/CSS

Libraries: Tensorflow, Keras, Pytorch, OpenAI Gym, Pandas, Matplotlib

Framework & Tools: Git, L^AT_EX, Django, Postman, FastAPI, AWS, Docker

PUBLICATIONS

1. **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 – [Link](#)
2. Pipattanasomporn, M., **Chitalia, G.**, Songsiri, J. et al., CU-BEMS, Smart building electricity consumption and indoor environmental sensor datasets. *Nature Scientific Data*, 241, 2020 – [Link](#)

EXPERIENCE

Growthworks.ai

Machine Learning Engineer

April 2022 – July 2023

Boston, USA | Remote

- Managed a proof-of-concept project utilizing different data analytics, ML methods to do real-time electricity market prediction at California-ISO region achieving an accuracy improvement of **15%**
- Utilized Apache Spark and Python to design and construct a scalable data pipeline, reducing data processing latency by **20%**

ClevAir

Data Scientist

March 2020 – March 2022

Stavenger, Norway

- Led the implementation of advanced deep learning models, utilizing **LSTM, transformers with attention** to forecast HVAC and building-level energy consumption, achieving **30%** savings
- Designed an in house algorithm to automate sensor clustering, resulting in a **50%** reduction in time and manual work for the delivery team

RESEARCH INTERNSHIPS

MDLab | Purdue University

Research Assistant | Guide: [Jan-Anders Manson](#)

August 2023 – Present

West Lafayette, IN, USA

- Working on transfer learning based approach for fault detection in induction motors (Project with [Wistron](#))
- Working on location selection analysis for establishing a manufacturing industry in USA using advanced technical cost models to analyze and compare various locations

Smart Grid Research Unit | Chulalongkorn University

Research Intern | Guide: [Manisa Pipattanasomporn](#)

July 2019 – March 2020

Bangkok, Thailand

- Developed a forecasting webserver using **Docker, AWS, and FastAPI**
- Developed a robust **deep learning based framework** for building-level load forecasting, improving the results by **20-45%**. Resulting work got published in [Applied Energy](#)
- Created a state-of-the-art dataset for **smart building energy consumption and indoor environmental monitoring**. Our work has been published in [Nature Scientific Data](#)

MAJOR PROJECTS

Reinforcement Learning based HVAC Control: Implemented RL techniques (A3C, DQN, DDQN) to optimize set point temperatures, enhancing thermal comfort and boosting energy efficiency by 15-20%

Variational Autoencoder (VAE): Developed a VAE neural network for image generation, conducting a comparative analysis with varied parameter adjustments on MNIST, CIFAR10, and CALTECH101 datasets [Link](#)

Wikipedia Search Engine: Designed a scalable and efficient search engine utilizing 70GB of Wikipedia data. Implemented in Python with diverse indexing and ranking techniques to deliver top-relevant documents for given query