Contact:

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Web Presence:

Personal Website

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N. Gaikwad

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Laguages:

Marathi	Native
Hindi	Native
English	Proficient
French	Basic

Soft Skills:

Communication	Excellent
Team-Player	Excellent
Writing	Good
Leadership	Good

Ninad Kiran Gaikwad

PhD Candidate / Research Assistant

Work experience

Graduate Research Assistant **Jan 2022 - Present**

Electrical Engineering and Computer Science Department, WSU

- Research is focused on intelligent control of networked buildings.

Machine Learning Intern **May 2023 - Aug 2023**

Research & Development Group, Edo Energy

- Developed state/parameter estimation algorithms for building thermal models.

Research Intern **May 2021 - Aug 2021**

Energy Systems Control and Optimization Group, NREL

- Performed analysis and developed a GUI-based application for stability analysis of the two-bus inverter-based microgrid system.

Graduate Assistant **Aug 2018 - Dec 2021**

Mechanical & Aerospace Engineering Department, UFL

- Developed MPC and RL-based algorithms for home energy resiliency.

Research Consultant **June 2018 - July 2018**

Centre of Excellence in Complex and Nonlinear Dynamical Systems, VJTI

- Trained two graduate students to set up a self-developed renewable energy forecasting system (SWEEFA-V1.0).

Consultant **Dec 2017 - May 2018**

Technology and Digital Innovation Group, Mytrah Energy

- Trained a team of three in data analytics and worked on the development of a real-time renewable energy forecasting system.

Assistant Professor **Jan 2017 - June 2017**

Electrical Engineering Department, SPCE

- Taught a graduate course on the application of power electronics in renewable energy systems.

Jr. Project Fellow **Aug 2016 - Jan 2017**

Gujarat Energy & Research Management Institute

- Supported the institute's training programs in renewable energy and continued the development of the renewable energy forecasting system (SWEEFA)

Research Intern **Aug 2015 - June 2017**

Gujarat Energy & Research Management Institute

- Developed a complete GUI-based application for renewable energy forecasting using ANN, ARIMA and NWP.

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Note: Exhaustive list of experiences present in CV

Programming Skills:

MATLAB	Excellent
Python	Excellent
Julia	Good
C	Basic
C++	Basic

Database Skills:

PostgreSQL	Good
MongoDB	Basic
Hadoop	Basic
Apache Spark	Basic

Cluster Computing Skills:

HPC	Basic
Slurm	Basic
Docker	Basic
Kubernetes	Basic

Energy Systems Software:

SimPowerSystems	Excellent
OpenDSS	Good
MATPOWER	Basic

Energy Systems Software:

EnergyPlus	Excellent
PVSyst	Good

Optimization Packages:

Gurobi	Excellent
CasADi	Excellent
CVX	Good
Pyomo	Good
JuMP	Basic

ML Packages:

TensorFlow	Good
PyTorch	Basic
Neuromancer	Basic

RL Packages:

TensorForce	Good
Stable-Baselines	Basic
tf_agent	Basic
TorchRL	Basic

Education

PhD in Electrical Engineering and Computer Science
Jan 2022 - Present

Washington State University (WSU), Pullman

Major areas of study: Power Systems Analysis, Power Systems Dynamics and Control, and Estimation Theory.

MS in Computer Science
Jan 2022 - Present

Washington State University (WSU), Pullman

Major areas of study: Machine Learning, Data Science, and Algorithmics.

MS in Mechanical Engineering
Aug 2018 - Dec 2021

University of Florida (UFL), Gainesville

Major areas of study: Control Theory, Probability, Optimization, Machine Learning and Reinforcement Learning.

MTech in Electrical Engineering
Aug 2014 - June 2016

Sardar Patel College of Engineering (SPCE), Mumbai

Major areas of study: Electrical Machine Analysis, Power Electronic Drives, Power System Dynamics and Control.

MProfEng in Electrical Engineering (One Semester)
Feb 2014 - June 2014

University of Wollongong (UOW), Wollongong

Major areas of study: Power Systems and Renewable Energy Technologies.

BTech in Electrical Engineering
Aug 2008 - June 2012

Veermata Jijabai Technological Institute (VJTI), Mumbai

Major areas of study: Power Engineering and Control Systems.

Publications

Model Predictive Control based Energy Management System for Home Energy Resiliency, Oral Presentation at the 56th North American Power Symposium (NAPS 2024), Nov 2024, El Paso, USA

Reinforcement Learning-Based Home Energy Management System for Resiliency, Oral Presentation at ACC-2021, IEEE Conference, May 2021, New Orleans, USA

Smart Home Energy Management System for Power System Resiliency, Oral Presentation at CCTA-2020, IEEE Conference, August 2020, Vancouver, Canada

On The Development of Solar & Wind Energy Forecasting Application Using ARIMA, ANN And WRF in MATLAB, Oral Presentation at INDIACom-2017, IEEE Conference, March 2017, Delhi, India

Photovoltaic Grid Connected Plant Energy Estimation Application in MATLAB, Oral Presentation at PVSEC-26, October 2016, Singapore