



Contact:

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📍 Spokane, WA, USA

Web Presence:

🌐 Personal Website

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🌐 N. Gaikwad

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🌐 @ninadkgaikwad

Languages:

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

Lead Power Systems Developer

Sep 2025 - Present

iGridSim

- Applying Machine Learning and Optimization to develop intelligent Distribution Grid Analytics and Planning Tools.

Power Systems Intern

Jun 2025 - Aug 2025

GE Vernova, Digital Technology

- Designed convex and distributed optimization frameworks for AC Optimal Power Flow to enhance scalability and efficiency in grid planning.

Engineering Intern

Jan 2025 - Apr 2025

North American Electric Reliability Corporation (NERC),
Advanced System Analytics and Modeling

- Automated analysis pipelines and developed interactive dashboards for grid reliability datasets to support extreme weather resiliency studies.

Graduate Research Assistant

Jan 2022 - Aug 2025

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.

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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	Excellent
Slurm	Excellent
Docker	Good
Kubernetes	Basic

Energy Systems Software:

SimPowerSystems	Excellent
OpenDSS	Excellent
MATPOWER	Good

Energy Systems Software:

EnergyPlus	Excellent
PVSyst	Good

Optimization Packages:

Gurobi	Excellent
CasADi	Excellent
CVX	Good
Pyomo	Good
JuMP	Good

ML Packages:

TensorFlow	Good
PyTorch	Good
Neuromancer	Good

RL Packages:

TensorForce	Good
Stable-Baselines	Good
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 2024 - Dec 2025

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

Smart Residential Community Simulator for Developing and Benchmarking Energy Management Systems , Oral Presentation at IEEE SmartGridComm 2025, Sept 2025, Toronto, ON, Canada

Comparing Building Thermal Dynamics Models and Estimation Methods for Grid-Edge Applications , Oral Presentation at IEEE PESGM 2025, Jul 2025, Austin, TX, USA

An Open-Source Simulation and Data Management Tool for EnergyPlus Building Models , Oral Presentation at IEEE PESGM 2025, Jul 2025, Austin, TX, USA

Duck Curve Mitigation Through Optimal Orientation of Utility-Scale Solar Photovoltaics , Oral Presentation at IEEE KPEC 2025, Apr 2025, Manhattan, KS, USA

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

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Note: Exhaustive list of publications is present in CV