

# Deepika Reddygari

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## EDUCATION

### George Washington University

Master of Science, Data Science (GPA: 3.9)

Relevant Coursework: Data Mining, Machine Learning, Data Science, Cloud Computing, Data Warehousing, NLP, Big Data analytics

Washington, DC

expected December 2025

### Jawaharlal Nehru Technological University

Bachelor of Technology, Mechanical Engineering (GPA: 8.01/10.0)

Kurnool, India

July 2021

- Published two papers at 2019 Postgraduate Colloquium of Environmental Research, Nottingham University, Malaysia; won first place in paper presentation

## PROFESSIONAL EXPERIENCE

### Graduate Teaching Assistant

George Washington University

Washington, DC

Aug 2025 – Present

- Assist students in understanding core concepts of algorithm design, data structures, and computational problem solving.
- Conduct weekly office hours and one-on-one mentoring sessions to clarify doubts and reinforce learning.
- Collaborate with course instructors to prepare instructional materials, assignments, and assessments.

### Graduate Research Assistant

LAISER | The George Washington Institute of Public Policy

(in partnership with Texas Workforce Commission, Walmart, and the Gates Foundation)

Washington, DC

Jan 2025 – present

- Conduct literature reviews, synthesize scholarly research, and analyze large datasets for workforce and education policy projects.
- Coordinate multi-partner research projects with stakeholders including the Texas Workforce Commission, Walmart, and the Gates Foundation.
- Prepare technical reports, summaries, and visualizations for both technical and non-technical audiences.

### Systems Engineer

TATA Consultancy Services

Chennai, India

Aug 2021 - Dec 2023

- Received "Star of the Month" award for proactively resolving a critical production issue by identifying and fixing code errors.
- Developed and maintained ETL pipelines using Informatica Cloud & PowerCenter, integrating large-scale datasets.
- Automated data workflows using Python, R, and UNIX scripting, significantly improving efficiency.
- Implemented real-time dashboards and data-driven reporting using Power BI & SQL.

## PROJECTS AND RESEARCH

### Thermal Energy Storage (TES) Study (*Ongoing*)

GWU, Washington, DC

- Investigating combined sensible and latent heat storage systems for renewable energy integration and climate adaptation strategies.
- Analyzing phase change materials (paraffin, stearic acid) for waste heat recovery applications.

- Conducting experimental fabrication and Python-based modeling, quantifying discharge efficiency, temperature sensitivity, and CO<sub>2</sub> reduction potential.

**Poster Presentation:** *Data-Driven Analysis of a Stearic Acid Thermal Energy Storage System for Diesel Exhaust Heat Recovery* - 7th Battery and Energy Storage Conference, 2025

- Conducted experimental study on stearic acid PCM for diesel exhaust heat recovery.
- Modeled thermal behavior and discharge efficiency using Python.
- Quantified CO<sub>2</sub> reduction potential and system performance improvements.

#### **Classification of Mathematical Problems Using NLP – GWU, Washington, DC**

- Applied classical ML & Transformer models to classify math problems into 8 categories.
- Conducted data preprocessing, model evaluation, and documented reproducible workflows.

#### **PUBLICATIONS**

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- Fabrication and Study of PCM-based Waste Heat Recovery System – *POCER 2019, Nottingham University*
- Thermal Energy Storage System Performance Using PCM-Variable Heat – *POCER 2019, Nottingham University*

#### **TECHNICAL SKILLS & CERTIFICATIONS**

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**Programming:** Python, R, SQL, NoSQL

**Machine Learning & AI:** NLP, LLMs, TensorFlow, PyTorch, Hugging Face

**Technologies & Tools:** Apache Hadoop, Spark, Git, Docker, Linux, MongoDB, Power BI

**ETL and Data Tools:** Informatica PowerCenter, Informatica Cloud, SQL, Oracle

**Cloud & Big Data:** Cloud AI Technologies, HPC Clusters, ETL Pipelines, Data Warehousing

**Certifications:** Applied Data Science with Python Specialization, Big Data, Cloud Computing

#### **LEADERSHIP & Volunteer Experience**

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##### **Operations Lead, Google Developer Groups**

August 2024 – Present

- Organized and led ML/AI workshops with 100+ participants; coordinated logistics, speaker engagement, and training materials.
- Managed event promotion and social media content to increase participation and outreach.

##### **Founder – Renewable Energy Hackathon (GWU)**

2024Dec

- Conceptualized and launched a sustainability-focused hackathon, attracting 60+ students.
- Mentored teams on prototyping (microgrids, solar monitoring), with one team advancing to a national competition.
- Balanced logistics, fundraising, and technical mentoring, an exercise in experimentation and perseverance.

##### **Volunteer, IEEE Student Chapter | Event Coordination and Support**

Jan 2018 – May 2020

- Coordinated hackathons and technical events, handling scheduling, stakeholder communication, and post-event reporting.