MEGHNA RAJBHANDARI

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EDUCATION

Drexel University   anticipated June 2025
Master of Science in Computer Science, **GPA 4.00**
courses:

- Data Structure and Algorithms
- System Basics
- Introduction to Software Design
- Data Analysis and Interpretation
- Database Management System
- Data Structure and Algorithms I
- Applied Artificial Intelligence

Kathmandu University   June 2022
Bachelor of Engineering in Environmental Engineering, **GPA 3.56**
courses:

- Calculus and Linear Algebra
- Advanced Calculus
- Differential Equations
- Object Oriented Programming C, C++
- Numerical Methods
- Statistics and Probability
- Environmental Modeling and Simulation

PROJECTS AND EXPERIENCES

BioSortify   Apr. 2024 - Current
- Developed an AI model with a dedicated team of five with Convolutional Neural Network (CNN) using TensorFlow library, that can distinguish between biodegradable and non-biodegradable waste with an accuracy of 98.8%.
- Built a website using HTML/ CSS and JavaScript.
- Integrated the model into the website using FastAPI enabling users to upload images and receive waste categorization results with a response time of 10ms.
- Currently working on real-time detection using computer vision.

Prime Inventory Management System   Mar. 2024 - Current
- Developed an online inventory management system using MySQL and Java that keeps track of inventory and customer orders.
- Increased the efficiency in inventory management for a firm.

Kathmandu University, *Research Assistant,* Department of Environmental Engineering, Dhulikhel, Nepal   June 2022 – June 2023
- Modeled and optimized anaerobic digester parameters for steady-state and dynamic simulations of methane production.
- Model simulation and visualization with Python's Matplotlib.
- Facilitated weekly client meetings through Zoom to collaborate on development and share progress on the research.
- Supervised undergraduate senior students on their final year project.
- Hosted and emceed an Inception Seminar on the project, with ministers from Nepal's technology, science, and environment sectors as our chief guests.
- Participated in a Poster Presentation organized by Kathmandu University, attended by delegates from the Norwegian Ministry of Foreign Affairs.

Modeling and Simulation of ASP   Oct. 2021 - Apr. 2022
- Developed Activated Sludge Model (ASM1) of the wastewater treatment Plant using Python.
- Analyzed the sensitivity of the parameters and optimized them for model calibration using AQUASIM.
- Model visualization and graph plotting using Matplotlib.
- Validated model through regression, Nash-Sutcliffe Efficiency, and curve fittings with an efficiency of 97.6%.

SKILLS

PROGRAMMING SKILLS: Python, C, C++, Java, ReactJS, HTML/CSS, JavaScript
SOFTWARE: ArcGIS, AutoCAD, AQUASIM, Energy2D
TOOLS: GitHub, Excel, TensorFlow, FastAPI, OpenCV, SQL Developer

AWARDS

Dean Scholarship, *Drexel University*   Jan. 2024 – Present
Awarded based on merit.

Merit-Based Scholarship, *Kathmandu University*   Aug. 2021
Received a full-tuition scholarship for achieving first position.

EXTRACURRICULAR

Forum for Environmental Conservation and Management, *Member*   Aug. 2020 - June 2021

Annual Philly Hackathon, *Contestant*   Apr. 2024

Python for Engineering Workshop, *Participant*   June 2021