

# MADAN BADUWAL

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Result-driven graduate with 4+ years of work exp. seeking full-time roles (May '24) in AI & Software

## EDUCATION

**University of Texas Permian Basin, MS in Computer Science** | Texas, USA GPA: **4.0 / 4.0** Dec 2024  
**Tribhuvan University, B.E. in Computer Engineering** | Kathmandu, Nepal GPA: **72.38/100**, Rank: 2/43 Aug 2019

Scholarships: Graduate assistantships (\$5,000), Highest GPA in the Computer Engineering cohort 3/7 semesters(\$4,000)  
Conferences & Hackathons: Journal of the Institute of Engineering, Hackathon winner organized by different universities  
Courses: DSA|AI|Image Processing & Pattern Recognition| Big Data|Distributed Database Systems | Advanced software/Web Development |Linear Algebra | Probability and Statistics| Microprocessor| Operating System

## INDUSTRY EXPERIENCE

**Matrice.ai, Sr.Machine Learning Engineer** | Chicago, USA Nov 2022 – Feb 2023

- Designed and developed a no-code data-centric AI platform for building and deploying ML applications, resulting in a 40% reduction in deployment time and an 80% decrease in development costs.

**BP Eye Foundation, Sr.Machine Learning & Computer Vision Engineer** | Kathmandu, Nepal May 2022 – Nov 2022

- Optimized semantic segmentation and detection algorithms for otitis media otoscopy images of the tympanic membrane, achieving an 85% accuracy rate. These algorithms were deployed as a scalable ML SaaS product on the Dell EMC server, leveraging cutting-edge technologies such as Django, React, Docker, AWS, and CI/CD pipelines.

**Fusemachines, Machine Learning Engineer** | New York, USA Feb 2020 – Feb 2022

- Led a team of engineers in developing an AI-enabled education platform called fuseclassroom.com. This platform is operational in approximately 60 colleges in Nepal, with already 20,000 students actively engaged.
- Collaborated on over 10+ client-based ML projects from the US, alongside internal ML initiatives within the company. Focused on automating and enhancing these projects using MLOps technologies such as DVC, MLflow, GitHub, Jenkins, Kubeflow, Apache Airflow, and Datadog.
- Conducted over 20+ in-house training sessions, workshops, and knowledge-sharing sessions on mathematics, in addition to facilitating numerous paper reading sessions focused on deep learning.
- Contributed to democratizing AI through researching, designing, reviewing, and refining content, including reading material, quizzes, assignments, and projects for Fusemachines AI Education Programs, specifically focusing on the "Micro Degree in Artificial Intelligence, Machine Learning, Computer Vision, and Natural Language Processing."

**National Innovation Center, Computer Vision Engineer(R & D)** | Kathmandu Nepal Jan 2019 - Feb 2020

- Collaborated with mechanical, electrical, and electronic hardware teams to deploy computer vision (CV) tasks in robots, resulting in the creation of initial prototypes for waiter and service robots within a span of 9 months.
- Conducted simulation tests with Docker and Gazebo, then integrated CV tasks into robots using edge devices like Tensor Processing Units, Jetson Nano, and Raspberry Pi, speeding up development by 40%.
- Improved pathfinding algorithms (A\* and Dijkstra), leading to a 22% reduction in execution time and faster NAV.
- Implemented and fine-tuned various computer vision tasks, including classification, localization, segmentation, object detection, object tracking, and face recognition, using PyTorch, covering the entire computer vision pipeline.

**Omniblueotech, Software Engineer Intern** | Kathmandu, Nepal Aug 2019 — Feb 2020

- Developed Django REST APIs and AWS-based background workers capable of managing millions of daily requests, facilitating third-party entities in extracting data from unstructured documents in a scalable fashion.
- Designed and developed web applications using front-end and back-end technologies: HTML5, CSS, Bootstrap, Javascript, and Django for consultancies, resulting in a 15% increase in revenue in the first quarter.

## RESEARCH EXPERIENCE

**University Of Texas Permian Basin, Graduate Assistant** | Texas, USA Jan 2024 – Ongoing

- Research on Multimodal learning chatbot

**University Of Texas Permian Basin, Undergraduate Student Assistant Editor** | Texas, USA Mar 2023 – Ongoing

- Assisting in the editing and proofreading of manuscripts for publication under the direction of Prof.Rebecca Babcock and Prof.Mohamed K Zobaa.

## PUBLICATIONS

- Prakash Ratna Prajapati, Samiksha Poudel, **Madan Baduwal**, S., Burlakoti, S., Pandey (Apr.2021). Signature Verification using Convolutional Neural Network and Autoencoder Journal of the Institute of Engineering, 16, No.1, pp.33–40

## SKILLS

Languages Python3, C, C++, Java, JavaScript, C#, Go, CUDA, CMake, Bash, LaTeX, SQL  
Packages Numpy, Pytorch, Tensorflow, Scikit-learn, XGBoost, Hugging Face, OpenCV, NLTK, Scipy,  
Databases PostgreSQL, MySQL, MongoDB, Snowflake, Spark, Hadoop, Redshift, Databrick, Kafka, Tableau, ETL  
Miscellaneous Django, AWS, Microservices, ROS, Gazebo, Arduino, R.pi, C.TPU, J.Nano, Git, Github, Docker, Kubernetes