ANITA BARAL

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Versatile machine learning engineer with the ability to learn new concepts quickly and adapt to ever-changing technology. **2.5 years of experience** in data science and software engineering with a major focus on data engineering and machine learning.

EDUCATION

M.S. in Computer Science, Miami University, Oxford, Ohio   Aug 2023 - May 2025
- Pursuing research in audio completion for video using diffusion model; DiffWave and Contrastive Language-Image Pre-training (CLIP) embeddings.

SKILLS

Data Preparation and Visualization: **Numpy, Pandas, Dask, Matplotlib, Seaborn**, Plotly

Machine Learning and Deep Learning: **PyTorch, TensorFlow, Keras,** scikit-learn**, Neural Networks, Convolutional Neural Networks, Recurrent Neural Networks, **CNNs for object detection (YOLO, SSD)**, **Object Tracking (SORT, DeepSORT**), Natural Language Processing, **Transformers, Generative Adversarial Networks (GAN), Diffusion model (DiffWave)**

Data Engineering: **SQL**, **Python,** EXCEL, Data build tool (dbt), Snowflake, Amazon RDS, PostgreSQL, Pytest, Streamlit

Web Development: PHP, Laravel, Flask, MySQL, HTML5, CSS3, Docker, Composer, Javascript, Bootstrap

Others: Microsoft Word, Git, Github, Bitbucket, Gitlab, Amazon EC2, Amazon S3, AWS Lambda, Linux, tmux, Vim, SSH

EXPERIENCE

Software Engineer | Myaamia Center, Miami University, Oxford, OH   **August 2023 - Present**
- Collaborating with cross-functional teams to develop and maintain 3 web applications using PHP, Laravel, HTML, CSS, and MySQL
- Containerized and deployed pipelines using Docker for consistent development and production environments thereby reducing the deployment time by 60%

Technologies: *Laravel, PHP, REST API, Bootstrap, Ajax, JavaScript, HTML, CSS, Docker, Microsoft Word, Gitlab, AWS, Gitlab*

Machine Learning Engineer, Leapfrog Technology | Kathmandu, Nepal   **Sep 2021 - August 2023**
- Collaborated with the data team of the Returnalyze project and extracted, transformed, and analyzed data on returns to gain valuable insights and generate better revenue
- Led the Machine learning team of the i8labs project based on Multi-Object Detection and Tracking, running multi-object detection models (YOLO, SSD, etc.) and tracking algorithms (Centroid, DeepSORT, SORT) in Oak and Raspberry Pie in real-time scenarios
- Building and developing AI | Data solutions to real-world problems in e-commerce sites, using AWS servers to train algorithms
- Developed a Question Answering System on the company's Human Resource data and leveraged it for employee retention

Technologies: *Python, EXCEL, SQL, Data build tool (dbt), Snowflake, Amazon RDS,* PostgreSQL, *TensorFlow, Keras,* scikit-learn*, PyTorch, RNNs and CNNs, Generative Adversarial Networks (GAN), CNNs for object detection (YOLO, SSD), Centroid, DeepSort, Amazon EC2, Amazon S3, AWS Lambda, Linux, Vim, tmux*

Machine Learning Intern, Leapfrog Technology | Kathmandu, Nepal   **July 2021 - Sep2021**
- Performed RFM analysis and Market basket analysis for customer segmentation for an enterprise and provided the analytics to better their customer retention and also provide recommendations to users
- Developed end-to-end recommendation and classification models (Frontend, APIs, Model building). Used the recommendation algorithm to better suggest products to customers for an e-commerce website

Technologies: *Python, Pandas, Numpy, scikit-learn, Neural Networks, Transformer, APIs, Unit Testing, streamlit*

PROJECT

Automatic License Plate Recognition (ALPR) for distorted images using SRGAN(2020): The purpose of the project was to assess the use of SRGAN (Super-resolution Generative Adversarial Network) to enhance the performance of the ALPR(Automatic License Plate Recognition) systems. The research done for the project has been published in Springer

RARA(2017): Reprogrammable Automatic Road Aligner (RARA) was built to mark roads, courts, and parking using Thermoplastic Paint, via a reprogrammable interface. Automating the manual work of road-marking using a rover, run via an Android app