

Prakash Chaudhary

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Summary

I am a Machine Learning Engineer with a proven ability to turn innovative ideas into practical solutions. I have a strong foundation in computer vision, sales forecasting, and recommendation systems. Alongside my industry experience, I am a dedicated educator, sharing my knowledge in data science with the next generation of professionals. I am eager to embrace new challenges and drive innovation in your dynamic team.

Industry Experience

Styldod Inc.

Bangalore, India

Machine Learning Consultant

Jun 2022 - Sep 2022

- Used DatasetGAN model to create high-quality, semantically segmented image apartment rooms datasets.
- Researched GAN models like ATISS and BlobGAN for virtual staging of apartment rooms.

Fusemachines

Kathmandu, Nepal

Machine Learning Engineer

Feb 2020 - May 2022

- Teamed as a lead ML engineer for projects under Coach and Kate Spade's data science team.
- Sales Forecasting:**
 - Developed a self-supervised multimodal contrastive learning architecture to forecast sales of unreleased products.
 - Analyzed extensive time series datasets using SQL, Pandas, and Plotly to identify product cannibalism.
 - Implemented a Multi-Quantile RNN-based PyTorch model, reducing stockouts by 30%.
- Product Segmentation:** Built an ensemble model using computer vision and scikit-learn, achieving 62% accuracy, doubling product classification improvement for customer segments.
- Recommendation System:** Designed an in-house recommendation system pipeline for fashion products, fine-tuning an open-source Factorization Machine model to achieve Precision@k and MRR comparable to AWS's recommendation engine.
- Talent Development:** Interviewed candidates for the AI Fellowship program and mentored associates/trainees

Betterhalf.ai

Bangalore, India

Machine Learning Engineer

Nov 2019 - Feb 2020

- Matchmaking App:**
 - Enhanced sign-up efficiency by approximately 30% through the creation of predictive models using LSTM networks for NLP, automating user profiles with minimal input.
 - Developed an NSFW image detection model using OpenCV and Tesseract-OCR, effectively identifying and flagging images containing NSFW text, ensuring a safer and more enjoyable user experience.

Academic Experience

NASA-IMPACT

Huntsville, AL

Graduate Research Assistant

Aug 2022 - Present

- Developed initial hierarchical classification model for generating hierarchical tags for documents in the Earth Science domain, improving document organization and retrieval.
- Established a machine learning pipeline to accurately determine the material composition of mixed materials through their spectral signatures, contributing to advancements in Earth Science analysis and research.

Fusemachines

Kathmandu, Nepal

Lecturer & Teaching Assistant

Mar 2022 - Present

- Teaching 50+ students in Data Science, covering Python, NumPy, pandas, Matplotlib, REST API, SQL, probability, statistics, linear algebra, LLM, and MLOps as part of the AI Fellowship Latin America 2023.
- Taught Computer Vision as a lecturer and assisted with Machine Learning and Deep Learning courses as a Teaching Assistant for the AI Fellowship Nepal in 2022.
- Conducted in recitation class, lab and paper reading sessions to facilitate a comprehensive learning experience for more than 100 students using tools like google jamboard, jupyter notebook & rise extension.

Robotics Club, Pulchowk Campus, Tribhuvan University

Lalitpur, Nepal

Robotics Engineer

Sep 2016 - Jun 2019

- ABU Robocon 2019, Mongolia:** Mentored and oversaw juniors for the competition
- ABU Robocon 2018, Vietnam:** Worked on kinematics, control, and navigation of the automatic robot to throw the shuttlecock received from manual robot using C programming language on ARM devices.
- ABU Robocon 2017, Japan:** Worked on the design, fabrication, and testing of the PCB circuits used in the automatic robot with 3 DOF triangular Stewart platform

Education

University of Alabama in Huntsville	Huntsville, AL
Master of Science in Computer Science (Thesis)	Aug 2022 - May 2024
MITx on edX	Online
MicroMasters in Statistics and Data Science	May 2020 - Aug 2021
Pulchowk Campus, Tribhuvan University	Lalitpur, Nepal
Bachelor of Engineering in Electronics and Communications	Nov 2015 - Nov 2020

Publications

Search Disaster Victims using Sound Source Localization	Jun 2020
17th International Conference on Information Systems for Crisis Response and Management, ISCRAM 2020	

Projects

Spectral Unmixing using Machine Learning	Mar 2023 - Oct 2023
A ML system for material characterization using spectral signal from Infrared (IR) spectroscopy. <ul style="list-style-type: none">Developed and implemented a neural network model that exhibited exceptional regression and classification performance in predicting the composition of various materials within disparate datasets.	
Sound Source Localization	Dec 2018 - Aug 2019
An 8-microphone cubical mesh that records the azimuth and elevation of an incoming sound source. <ul style="list-style-type: none">Constructed a localization system with the GCC-PHAT algorithm and microphone mesh, and applied CNN architecture to denoise speech and reach 95% accuracy in 3D localization in the range of 1.5 meters.	
Foxhound Security Solution	Nov 2019 - Feb 2020
SaaS-based user's behavior anomaly detection and network event log analyzer built using distributed ML. <ul style="list-style-type: none">Designed and developed a continual machine learning system for anomaly detection, analytics, and reasoning using Pyspark for ETL, an AutoEncoder architecture, and statistical reasoning.	
Mail Classifier	Jun 2019
Comparative study of machine learning and deep learning models on mail classification task. <ul style="list-style-type: none">Built a SVM and LSTM models to compare the performance on classifying mail into one of the spam, ham, promotion, and social category.	

Achievements

Best Project Poster Award: Awarded by the department of electronics and computer engineering for the poster presentation of our senior year project in engineering.

Best Instrumentation Project: Awarded for our project IOT Based Home automation under the Instrumentation category at National Technological Exhibition (LOCUS) held in Nepal.

Best Shuttlecock Award: Awarded for the best design of shuttlecock coordination and picking mechanism in manual and automatic robot presented in ABU Robocon 2018, Vietnam (more).

ROHM Award: Awarded by ROHM semiconductors for the unique design and operation of four legged automatic robot in ABU Robocon 2019, Mongolia.

Certifications

MicroMasters in Statistics and Data Science from MITx on edX

AWS Certified Machine Learning Specialty from AWS Training

Deep Learning Specialization from deeplearning.ai on *Coursera*

Natural language Processing Specialization from deeplearning.ai on *Coursera*