

Prakash Chaudhary

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Summary

Machine Learning Engineer with 5 years of proven ability to deliver customized 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.

Industry Experience

Styldod Inc.

Machine Learning Consultant

Kent, DE

Jun 2022 - Sep 2022

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

Fusemachines Inc.

Machine Learning Engineer

New York City, NY

Feb 2020 - May 2022

- Teamed as a lead ML engineer for projects collaborating with project owners and stakeholders of *Coach* and *Kate Spade*.
- 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 to classify products into four customer segments using computer vision and scikit-learn, achieving 62% accuracy.
- Recommendation System:** Developed an in-house recommendation system using Factorization Machine model, AWS EC2 and Lambda, achieving Precision@k and MRR on par with AWS's recommendation engine.
- Talent Development:** Interviewed candidates for the AI Fellowship program and mentored associates/trainees

Betterhalf.ai

Machine Learning Engineer

Bangalore, India

Nov 2019 - Feb 2020

- Created predictive models using LSTM networks for NLP, automating user profiles with minimal input, enhancing sign-up efficiency by approximately 40%.
- Developed an NSFW image detection model using OpenCV and Tesseract-OCR, ensuring a safer user experience.

Academic Experience

NASA-IMPACT

Graduate Research Assistant

Huntsville, AL

Aug 2022 - Present

- Developed initial hierarchical classification model for generating hierarchical tags for documents in the Earth Science domain, improving document organization and retrieval.
- Created an ML pipeline, including signal processing, feature engineering, and an multi-label neural network model, to predict material composition from spectral signatures, achieving over 95% f1 score.

Fusemachines

Lecturer & Teaching Assistant

New York City, NY

Mar 2022 - Present

- Teaching 50+ students in Data Science, covering Python, **Git**, 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.
- 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.

Education

University of Alabama in Huntsville

Master of Science in Computer Science (Thesis) - GPA: 4.0

Huntsville, AL

Aug 2022 - May 2024

MITx on edX

MicroMasters in Statistics and Data Science

Online

May 2020 - Aug 2021

Pulchowk Campus, Tribhuvan University

Bachelor of Engineering in Electronics and Communications

Lalitpur, Nepal

Nov 2015 - Nov 2020

Publications

Search Disaster Victims using Sound Source Localization

17th International Conference on Information Systems for Crisis Response and Management, ISCRAM 2020

Jun 2020

Projects

Spectral Unmixing using Machine Learning

Mar 2023 - Oct 2023

A ML system for material characterization using spectral signal from Infrared (IR) spectroscopy.

- 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.

- 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.

- 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.

- Built a SVM and LSTM models to compare the performance on classifying mail into one of the spam, ham, promotion, and social category.

————ACHIEVEMENTS————

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*

Skills

Languages: C++, Python(Programming Language), SQL

Hard Skills: Git, Pytorch, Machine Learning, Deep Learning, Error Analysis, Robotics, Research, Jira, AWS, Data Analysis, Pyspark

Soft Skills: Leadership, Effective communication, Teamwork