Prakash Chaudhary

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Industry Experience

- **Fusemachines**   Kathmandu, Nepal
  Machine Learning Engineer   Feb 2020 - May 2022
  - Worked as a lead ML engineer for projects with full ownership under Coach and Kate Spade's data science team.
  - **Sales Forecasting**:
    - Researched and developed a self-supervised multi-modal contrastive architecture to forecast sales of a new product that has not yet been launched, resulting in a successful launch with strong sales.
    - Implemented a Multi-Quantile RNN-based Pytorch model to forecast two months of sales of retail products resulting in 30% reduction in stock outs.
    - Analyzed and visualized large time series dataset using SQL, python, and plotly to understand cannibalism among retail products by correlation analysis.
  - **Product Segmentation**: Built an ensemble model using computer vision models and scikit-learn to classify new products among customer segments with 62% accuracy, 2x improvement, to help the sales team identify which products to launch.
  - **Recommendation System**: Developed an in-house recommendation system pipeline for fashion products using an open-source Factorization Machine model with Precision@k and MRR comparable to AWS's recommendation engine.
  - Interviewed and selected students for the AI Fellowship program for Microdegree in AI.

- **Betterhalf.ai**   Bangalore, India
  Machine Learning Engineer   Nov 2019 - Feb 2020
  - **Matchmaking App**:
    - Improved sign-up efficiency by about 30% by reducing required number of steps through the development of prediction models using LSTM networks for NLP that automatically filled in user with minimal user's detail.
    - Developed an NSFW image detection model with OpenCV and Tesseract-OCR to identify and flag images with NSFW text.

Academic Experience

- **University of Alabama in Huntsville**   Huntsville, AL
  Graduate Research Assistant   Aug 2022 - Present
  - Working with NASA-IMPACT ML team in building NLP solutions to make scientific research accessible.

- **Fusemachines**   Kathmandu, Nepal
  Teaching Assistant   Mar 2022 - Jan 2023
  - Conducted in recitation, lab and paper reading sessions for the Machine Learning and Deep Learning courses.

Education

- **University of Alabama in Huntsville**   Huntsville, AL
  Master of Science in Computer Science   Aug 2022 - May 2024
- **MITx on edX**   Online
  MicroMasters in Statistics and Data Science   May 2020 - Aug 2021

Publications

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

Projects

- **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 end 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.

Certifications

- AWS Certified Machine Learning Specialty from AWS Training