Laxman Dahal

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OBJECTIVE

A passionate student data scientist with statistics background and experience in complex simulations, applied data analysis, and Machine Learning. Seeking an internship or a full-time in data science or ML.

EDUCATION

UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

PH.D. IN EARTHQUAKE ENGINEERING
Expected: Jul 2023 - Jan 2024
GPA: 3.86
Research: Quantify seismic risk and resilience of wood-frame buildings using statistical and machine learning methods

UCLA

MS IN STATISTICS
Expected: Jan 2023
GPA: 3.82

LINKS

Github:// **laxmandahal**
LinkedIn:// **laxman-dahal**
500px:// **amoman6**

COURSEWORK

GRADUATE

Causality and Machine Learning
Intro to Deep Learning (Pytorch)
Statistical Programming
Methods of Machine Learning
Matrix Algebra and Optimization
Statistical Methods and Learning
Monte Carlo Methods for Optimization
Statistical Models in Finance
Research Design, Sampling, and Analysis

SKILLS

PROGRAMMING
Over 10,000 lines:
Python • Matlab • R/R Studio
DATABASES
MySQL • Microsoft SQL
PACKAGES
Numpy • Pandas • Matplotlib
Scikit-Learn • Scipy • Pytorch
• SQLite
FAMILIAR
LaTeX • Git • BASH • C/C++ • Tcl

INTERNSHIPS

HASELTON BAKER RISK GROUP LLC

DATA SCIENCE AND RESEARCH INTERN
Jun 2022 – Present | Chico, CA

- Develop an in-house Python package to perform sensitivity analysis and visualize building recovery trends (processed 30GB+ data)
- Implement and deploy an ensemble of classification algorithms (CatBoost, XGBoost, etc.) to predict highly imbalanced multi-label building system types
- Perform feature engineering and feature selection to increase the testing accuracy from 70% to 91%

DISTRICT DEPARTMENT OF TRANSPORTATION (DDOT)

DATA ANALYTICS INTERN
Jan 2018 – Aug 2018 | Washington, D.C.

- Conducted a detailed evaluation of the performance-based parking pricing program implemented in the Stadium Zone in D.C.: $25M+ in revenue
- Performed spatial and temporal data analysis in ArcGIS using 2M+ parking data collected between 2015 and 2017
- Collaborated with different divisions within DDOT and third-party contractors to develop easily obtainable data to determine curbside utilization

RESEARCH EXPERIENCE

BURTON RESEARCH GROUP @ UCLA | GRADUATE RESEARCHER

Sept 2019 – Present | Los Angeles, CA

ONGOING WORK

- Leverage HPC to perform portfolio-based assessment of 500+ buildings and compile a database with structural response data
- Devise and implement ML-based surrogate model pipeline as an alternative to simulation-intensive approach to predicting structural responses

COMPLETED WORK

- Developed an end-to-end Python-based tool to automate design, run analysis, and estimate economic loss of wood-frame buildings
- Investigated uncertainty propagation in seismic risk due to probability model misspecification

FELLOWSHIPS/LEADERSHIPS

2019-24 **Fellow** | UC- HBCU Fellowship, UC Office of President
2020-21 **Grad Representative** | Chancellor's SSF Advisory Committee
2018-19 **President** | American Society of Civil Engineers, HU Chapter
2015-19 **Howard University** | Fully-funded merit-based scholarship

SELECTED PUBLICATIONS

[1] **Dahal, L.**, Burton, H., and Onyambu, S. Quantifying the effect of probability model misspecification in seismic collapse risk assessment. *Journal of Structural Safety* (January 2022).

[2] **Dahal, L.**, Burton, H., and Yi, Z. An end-to-end computational platform to automate seismic design, nonlinear analysis, and loss assessment of woodframe buildings. In *12th National Conference in Earthquake Engineering* (June 2022).