

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)
- Identify, evaluate, and document resiliency trends among buildings. Contribute to the report scheduled to be published by ATC and FEMA
- Implement and deploy an ensemble of classification algorithms (CatBoost, XGBoost, etc.) to predict highly imbalanced multi-label building system types

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).