

Kevin Kuei

Email: kevinkuei@gmail.com | Phone: (510) 449-4305 | LinkedIn: kevinkuei

Skills

Python, R, Matlab, Javascript, SQL, Git, Jupyter, NumPy, Pandas, Scipy, Sklearn, Machine Learning, Visualization, Numerical Modelling and Optimization

Selected Development

MOOC

Harvard : Introduction to Computer Science CS50x

Stanford : Machine Learning

DeepLearning.AI : Neural Networks and Deep Learning, 'Improving Deep Neural Networks:

Hyperparameter Tuning, Regularization, and Optimization', Structuring Machine Learning Projects, Convolution Neural Networks, Sequence Models

UMich : Introduction to Data Science in Python, Applied Machine Learning in Python

University of California, Davis

Deterministic Optimization and Design, Life Cycle Assessment for Sustainable Engineering, Theoretical Geomechanics, Probabilistic Seismic Hazard Analysis, Finite Element Procedures in Applied Mechanics,

Experience

2020–Now

Golder Associates / WSP

Vancouver, BC, Canada

Staff Engineer / Analyst

Performed numerical modelling, data analysis, interpretation, and data reduction. Created Python scripts and Jupyter notebooks for data analysis, batch-processing, and automating engineering analyses. Performed geostatistical analysis and random-field/stochastic simulations with Python and R. Managed compute instances on AWS/Azure for running models.

Supported senior staff with proposal efforts, data review, data compilation, visualization, report writing, technical documentation, and client presentations. Coordinated with seniors, engineers of record, and other stakeholders on multiple projects.

Implemented ML classifiers and regressors with Python scikit-learn library to forecast numerical predictions for mapping regional seismic hazards. Standardized and compiled inputs for use in predictive models. Created a project pipeline, performed model evaluation and hyperparameter tuning. Conducted literature review and data analyses to support feature selection efforts. Collaborated with colleagues on implementing alternative gradient-based response models.

2015–2020

University of California, Davis

Davis, CA

Graduate Researcher

Created MATLAB programs for signal processing, signal matching, and inverse analysis. Created single-element drivers for performing numerical experiments with Python API to investigate effects of particle polydispersity and state on behavior of granular materials.

2017–2018

California Push Technologies

San Leandro, CA

Consulting Engineer

Refactored and optimize code components of iBPT post-processing software using an object-oriented MATLAB framework for improved readability, maintainability, and runtime. Implemented a new GUI wrapper with added functionality and productivity features including automated signal processing (e.g., baselining, integration, filtering), file flagging, data reduction and output file generation, and batch processing. Compiled software documentation and provided personnel training, and software QA/QC.

Education

Publications

6 first author, 2 contributing author. Areas of pile dynamics and signal matching, DEM, and micro-mechanics.

2015–2020

Doctor of Philosophy

University of California, Davis

Dynamic signal matching, inverse analysis, discrete element modelling and particle micro-mechanics of granular materials.

2013–2015

Master of Science

University of California, Davis

2010–2013

Bachelor of Science

University of California, Davis