ASHLEY NICOLE ELLENSON

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SUMMARY

I have a proven ability to solve complex problems at the intersection of data science, consulting, and engineering. I work cross-functionally between the data analytics, data management and engineering groups in complex scientific domains. I analyze large multivariate datasets to determine dominant signals, derive information on dynamical systems, and create data visualizations to communicate patterns and insights to senior leadership, scientists and external stakeholders.

PROFESSIONAL EXPERIENCE

Project Scientist   2022-Current
Integral Consulting Corporation   *Santa Cruz, CA*

· Establish modelling workflow and train and mentor junior staff modelling workflow and analysis techniques.
· Use advanced statistical modeling to derive insights about multi-frequency, multi-variate time series across 750 beaches for municipal planning impacting 300,000 residents.
· Modernized experimental platform to use parallel processing and distributed systems to process a multivariate global dataset for a global wave energy dashboard.
· Routinely distill decades of historical marine dynamics into clear visualizations and interpretations for external stakeholders to drive renewable energy site selection.

Graduate Fellow   September 2018 - August 2021
US Army Corps Engineering Research and Development Center   *Oregon State University*

· Spearheaded international research collaborations across three institutions resulting in two publications.
· Analyzed 5,000+ coastal images by training and implementing a convolutional neural network to quantify coastal risk for stakeholders including civil works planning departments, recreationalists and environmental health departments.
· Increased ability to determine efficient routing for fishermen and shipping operators by increasing wave forecast accuracy using ensemble machine learning techniques.

EDUCATION

Oregon State University

PhD, Civil Engineering, *Coastal and Ocean Engineering*   2021
    Minor, Risk and Uncertainty Quantification
MS, Civil Engineering, *Coastal and Ocean Engineering*   2017

Columbia University

BS, Environmental Engineering, *Water Quality*   2011

SKILLS

AI/ML, Data Science	Neural networks, decision trees, ensemble techniques, convolutional neural networks, support vector machine, k-means clustering, regression analysis
Data Visualization	Categorical, time series, geospatial mapping
Cloud Computing, DevOps	Containerization (docker), AWS (object storage), CI-CD (Github actions)
Programming Languages	Python (sci-kit learn, matplotlib, seaborn, dask, pandas, x-array), Git, MATLAB, R-shiny, SQL