CLINTON STIPEK

Data Engineer | Scientist

A highly motivated data scientist with a proven track record in both research and development who excels in crafting innovative solutions through feature engineering, exploratory analysis, and machine learning. My expertise lies in working with large geospatial data where I leverage statistical techniques and supervised and unsupervised models to uncover meaningful insights.

SKILLS

Data Management

Progamming

Collaboration

Data Visualization

Software Development

EDUCATION

Master of Science - Marine Ecology
University of Miami

Miami, FL, USA - Dec 2018

Bachelor of Science - Physics
University of Washington

Seattle, WA, USA - Jun 2013

Data Science Certification -
University of Washington

Seattle, WA, USA - Jun 2022

PRESENTATIONS

IEEE Big Data Conference - 2024

Empirically Categorizing the Built Environment in Relation to Height

AGU Conference - 2024

Leveraging Unsupervised Learning to Understand Morphology patterns

ASPRS Conference - 2024

Mapping Building Height at Scale using a Machine Learning Approach

AAG Conference - 2023

Leveraging a muli-class Random Forest to understand Number of Floors from open data

SE Ecological Conference - 2018

Seagrass Communities in South Florida: Responses to Natural and Anthroprogenic Strains

EXPERIENCE

Oak Ridge National Laboratory | OCT 2021 - PRESENT

Data Engineer / Scientist

Engineer machine learning pipelines to solve complex, multifaceted geospatial problems

- Successfully designed and implemented ETL pipelines on large geospatial data for machine learning models
- Develop software packages to organize and streamline scalable workflows
- Strategically leverage both supervised and unsupervised machine learning models to gain insight into multifaceted problems

Eagleview | FEB 2021 - SEP 2021

Data Analyst II

Provided data-driven analytics for insight into business decisions

- Provided insight into financial projections through statistical analysis, increasing accuracy by 29% for predictions
- Collaborated with stakeholders to build visualizations and address complex questions / problems
- Designed and implemented dashboards with live data for quick and efficient business decisions

Verizon | DEC 2019 - FEB 2021

GIS Analyst / Developer

Engineered data using python / GIS to generate high level insight

- Developed scripts for automation to help cut time consuming tasks for spatial data analysis
- Built dashboards / data visualizations to display budget / bottleneck issues
- Designed a ETL workflow that generated a 31% increase in cell tower production

Comtech | APR 2019 - DEC 2019

Data Analyst

Collaborated with stakeholders to streamline data managment techniques and reports

- Collected, analyzed, and quality reviewed data to optimize data management processes and storage systems
- Formulated data management needs into discrete, manageable problems with defined outcomes and parameters
- Applied and identified appropriate tools to collect, clean, and prepare large datasets

University of Miami - Lirman Lab of Ecology | DEC 2017 - APR 2019

Data Engineer

Processed raw data to produce projections and insight

- Provided data driven guidance on complex questions to provide insight for near-shore habitat policies
- Conducted, coordinated, and directed modelling and analysis of spatio temporal research projects
- Applied and identified appropriate tools to collect, clean, and prepare large datasets

PUBLICATIONS

Stipek C. et al. 2025. A segmented approach to modeling building height: Delineating high-rise and low-rise buildings for enhanced height estimation. Computers, Environment and Urban Systems 119. https://doi.org/10.1016/j.compenvurbsys.2025.102287

Stipek, C. et al. 2024. Empirically Categorizing the Built Environment in Relation to Height. IEEE Conference on Big Data, pp. 5847-5856, doi: 10.1109/BigData62323.2024.10826135.

Stipek, C. et al. 2024. Leveraging Footprint Data to infer Building Height: A Machine Learning Approach. Nature: Scientific Reports 14. https://doi.org/10.1038/s41598-024-66467-2.

PRESENTATIONS CONT.

ESRI User Conference
Presenter - 2018, 2019

Tracking Movements of Marine Mammals to Help Identify Spatial and Temporal Patterns

PROJECTS

Infering Building Height from Morphology Features - Team Lead
Code: https://github.com/ORNL/vivaldi

Comparison of Global Buiding Height Products - Team Lead

LandScan - Modelling the Spatial Patterns of Human Populations - Member

Global Building Intelligence - Member

PUBLICATIONS CONT.

Lebakula et al. 2024. Detecting Important Drivers of Gridded Population Modeling With Machine Learning. IEEE Conference on Big Data, pp. 5804-5811, doi: 10.1109/BigData62323.2024.10824999.

Adams et al. 2024. SIGHT: Stacked Integration of Geospatial Hierarchical Typologies for Inferring Building Characteristics. IEEE Confernce on Big Data, pp. 5775-5784, doi: https://doi.ieeecomputersociety.org/10.1109/BigData62323.2024.10825334.

Stipek, C., Santos, R., Babcock, E., Lirman, D. 2020. Modelling the resilience of seagrass communities exposed to pulsed freshwater discharges: A seascape approach. PLoS ONE 15(2): e0229147. https://doi.org/10.1371/journal.pone.0229147.

LEADERSHIP

Delivered Building Height Layers for Population Projections for Countries of Interest - National Geospatial Agency White House Reports

Produced open-source license for production code - https://doi.org/10.11578/dc.20240416.1

Lead a Writing Group for Young Professionals

Member of Knoxville Writers Guild

Mentored Interns - Summer 2023, 2024

Volunteer 10 hours / month in East Tennessee Volunteer Initiative

University of Washington Student/Athlete - Swimming

Swimming Representative for the University of Washington Leadership Council

T.A. Excellence Award - 2018-2019 University of Miami

Udemy Course Instructor - Introduction to ArcGIS Pro: A Beginners Course