

James D. MacCarthy

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OVERVIEW

An aspiring data scientist with a background in sustainable development and a passion for using open-source solutions to streamline data management, analysis, and visualization workflows and deliver data-driven insights to help inform decision-making.

SOFTWARE EXPERIENCE

Advanced **R, Python, SQL, ArcGIS**
Intermediate **Google Earth Engine, JavaScript, HTML/CSS, Git**
Basic **PowerBI, Tableau, Linux**

ANALYTICAL SKILLS

Machine Learning, Predictive Analytics, Feature Engineering, Data Mining, Model Selection, Hypothesis Testing, Network Analysis, Remote Sensing, Geospatial Analysis

PROFESSIONAL EXPERIENCE

Research Associate/ Geospatial Analyst | FHI 360 Aug 2018 – Present (1.5 years)

- > Collaborate with clients to define user requirements, develop performance metrics, and architect data pipelines for 5-10 projects per year
- > Develop predictive machine learning models in R for regression and classification problems using structured and unstructured data 3-4 times per year
- > Automate data cleaning, management, analysis, and visualization with R and Python scripts, increasing productivity by at least 50% and saving \$10,000-\$20,000 per year
- > Prototype and build 2-3 interactive data dashboard and mapping products per year that enable managers to track project activities and measure progress towards project goals
- > Oversee and advise network analyses 1-2 times per month to aid project leaders in identifying community influencers, understanding information flows, and improving social capital
- > Develop course material and lead 2-3 international trainings for 10-20 people per year to expand organizational capacity with statistical, geospatial, and network analysis
- > Contribute maps, graphics, and text that summarize research methods and major findings for 1-2 reports or presentations each month
- > Communicate research results at relevant conferences and stakeholder meetings 2-3 times per year

Technical Manager | Conservation International Jul 2013 – Jul 2016 (3 years)

- > Compiled wildlife, vegetation, and climate data from 15 long-term ecological field sites each month and established best practices for data management by drafting research protocols and data dictionaries
- > Automated data quality processes for large-scale databases with millions of records using R scripts
- > Demonstrated excellent communication skills by providing 24/7 technical support for research teams located in 15 countries across 7 time zones
- > Collaborated with software engineers 2-3 times per month to design and launch a wildlife research product that reduced the level of effort required to collect data by 20-30%
- > Developed course material and led 1-2 international trainings for 10-20 people per year to expand organizational capacity with data collection and quantitative analysis
- > Wrote successful grant proposal for \$500,000 to fund environmental education programs and oversaw all aspects of program implementation, including budgeting, recruitment, contracts, and procurement

EDUCATION

Duke University | Nicholas School of the Environment | Durham, NC May 2018

Master of Environmental Management | Geospatial Analysis Certificate

- > **Awards:** Field Scholarship for Environmental Leadership (2016-2018)
- > **Final Project:** Developed spatially explicit statistical models to estimate animal abundances

Wheaton College | Norton, MA Feb 2010

Bachelor of Arts in Environmental Science

- > **Awards:** Magna Cum Laude (2010), Davis Fellowship for Internships Abroad (2009)

Relevant Courses: Applied Data Analysis, Non-Parametric Statistics, Economics