THOMAS M. FRANCIS

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Portfolio: https://tmfrancis.github.io/

SUMMARY

Data scientist with extensive experience with geospatial datasets. Demonstrated strengths in:

- remote sensing
- integrating raster, vector, and non-spatial data
- machine learning
- data acquisition, validation, conversion, application, and analysis
- spatial data visualization

Proven communicator with excellent analytical skills. Enthusiastic and effective team player.

SKILLS

GIS Software: ArcGIS Pro, ArcGIS Online, Google Earth Pro, Survey123, QGIS, GeoServer, Leaflet
Programming Languages: R, Python, Arcade, HTML/CSS, Java/JavaScript, SQL, PostgreSQL
Software: GitHub, MS-Excel, MS-Powerpoint, Zotero

EXPERIENCE

TECHNICAL CONSULTANT, Industrial Economics, Incorporated, Cambridge, MA — 6/22 – 6/25
Created presentation-ready analyses and visualizations for environmental litigation, natural resource damage assessments, environmental impact statements, and policy and regulatory impact reports for multiple practices in a consultancy context. Trained and guided research analysts in GIS.

RESEARCH ASSISTANT, Clark University, Worcester MA — 1/22 – 6/22
Support the development of quantitative analysis metrics for Brazilian land use dataset. Research kappa-based metrics of accuracy assessment for academic paper series.

TEACHING ASSISTANT, Computer Programming for GIS — 10/21 – 12/21
TEACHING ASSISTANT, Python Programming — 8/21 - 10/21
Led lab sessions for 10-15 students and held office hours to assist with coursework. Graded lab assignments for undergraduate, master's, and doctoral students.

SATELLITE IMAGERY AND GEOGRAPHIC INFORMATION SYSTEMS CONTRACTOR, United Nations Institute for Training and Research, UNOSAT, remote — 6/21 – 8/21
Investigated and documented petroleum capacity, production, and transfer in Central Africa using remote sensing. Delivered detailed, actionable analysis based on a diverse set of geospatial and non-spatial datasets.

DEPUTY DIRECTOR, Massachusetts Bicycle Coalition, Inc, Boston MA — 8/16 – 8/20
Managed essential programs for small non-profit with statewide mandate. Coordinated with federal, state, and local government officials and advocacy groups to improve transportation infrastructure. Active member of MassDOT Design Review Committee and Massachusetts Bicycle and Pedestrian Advisory Board.

DIRECTOR, OIL AND GAS RESEARCH, Fossil Free Indexes, LLC, Port Washington NY — 1/14 – 12/17
Developed algorithms for identifying and ranking fossil fuel reserves held by public corporations. Maintained database of industry specific operational statistics. Interpreted scientific literature and provided timely written commentary on fossil fuels and climate change.

EDUCATION

MASTER OF SCIENCE, GEOGRAPHIC INFORMATION SCIENCE — 2022
Clark University, Worcester, MA

STRATEGIC MARKETING EXECUTIVE PROGRAM — 1998
Cornell University, Johnson School of Management, Ithaca NY

BACHELOR OF ART, ECONOMICS — 1987
Swarthmore College, Swarthmore, PA

PUBLICATION

Pontius, R. G., Jr, Francis, T., & Millones, M. (2025). A call to interpret disagreement components during classification assessment. *International Journal of Geographical Information Science*, 1–18. https://doi.org/10.1080/13658816.2025.2469830