William Matthew Cornejo

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LinkedIn | Portfolio

Professional Summary

GIS Developer and Geospatial Data Scientist with 3+ years of hands-on experience in renewable energy optimization, environmental conservation, and urban infrastructure planning. Proven track record developing automated geospatial solutions and managing large-scale spatial datasets.

EDUCATION

Hunter College, City University of New York   New York, NY
Master of Science in Geographic Information Systems (GIS)   August 2023 – Present

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TECHNICAL SKILLS

Programming Languages: Python, C++, C, Java, SQL, R, Go, HTML
GIS & Data Tools: ArcGIS, QGIS, GDAL, Jupyter Notebook, pandas, numpy, sklearn
DevOps & Cloud: Docker, Kubernetes, OpenShift, Ansible, Git, GitHub Actions, Tekton
Languages: Spanish (Fluent)

EXPERIENCE

Geospatial Data Science Intern   August 2024 – Present
National Renewable Energy Laboratory

- Support wind and solar energy delivery systems across 15+ states, contribution to $2.4B in renewable energy infrastructure projects
- Lead data organization initiative to minimize file redundancies by 40% across 10TB+ of vector and raster datasets
- Process 50+ geospatial datasets using Python and GDAL on high-performance computing resources for large-scale geospatial analysis

GIS Trails Mapping Intern   June - August 2024
The Natural Areas Conservancy

- Mapped 10+ miles of trails at 627-acre Floyd Bennett Field, increasing trail documentation by 50%
- Created 5 comprehensive trail maps for NYC Parks
- Installed 14 feet of erosion-control structures to improve accessibility in 10+ sensitive natural areas

Park Management & GIS Intern   July 2023 - June 2024

NYC Parks and Recreation
- Applied GIS analysis to solve infrastructure challenges across 30,000+ acres of NYC parks
- Digitized 30+ storm drain locations across Northern Manhattan
- Led volunteer teams of 100+ individuals in park restoration and replanting initiatives

Edge-AI Intern in Robotic Ecosystems   June - August 2021

IBM Thomas J. Watson Research
- Developed AI framework supporting 10+ robotic platforms, reducing deployment by 60%
- Created modular architecture separating AI components from sensing systems
- Implemented solutions in SPOT simulator and Gazebo environment, testing 100+ scenarios

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PROJECTS

PM2.5 and Benzene Web Map   May 2025
- Designed an interactive web map visualizing sources and impacts of air pollutants
- Enabled users to filter data, search 200+ locations, and toggle 6 map layers dynamically
- Built using JavaScript and Leaflet for responsive geospatial functionality, achieving 2-second average load time

Northern Manhattan Storm Drain Mapping   January 2024
- Developed comprehensive drainage infrastructure maps for 5 Manhattan parks
- Digitized and field-verified 200+ historical catch basin and manholes data for 98% accuracy
- Contributed spatial datasets to official NYC Parks database serving 500+ staff members via ArcGIS Online

North Forty Natural Area Trail Mapping   June - August 2024
- Conducted ground-truthing across 150-acre natural systems, documenting 8+ miles of previously unmapped trail systems
- Maintained trail conditions through vegetation management across 25+ work sites
- Integrated trail data into official NYC Parks Trail Map system used by 25,000 annual visitors

IPARC Spatial Issue Tracking   January 2024
- Created spatial tracking system categorizing 500+ Manhattan Parks maintenance issues
- Developed 4-tier classification system optimizing repair workflows
- Maintained using ArcGIS FieldMaps for real-time updates, processing 100+ weekly updates

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PUBLICATIONS

Author of "Object-Oriented Programming in GIS Applications"
May 2025
https://gistbok-topics.ucgis.org/PD-01-021