

GOPINATH GNANAKUMAR MALATHI

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RESEARCH SUMMARY

I am a PhD Candidate in the Department of Technology Management & Innovation at NYU Tandon School of Engineering, working with Dr. Graham Dove. My research interests are at the intersection of CSCW, HAI, and GIScience. I investigate how individuals and communities interact with geospatial technologies to make maps, and how GeoAI might be reshaping their interactions with these technologies, their collaborative dynamics, and the geographic information they produce. Through my research, I aim to produce empirical evidence that might inform the responsible design and integration of GeoAI systems.

RESEARCH PUBLICATIONS & PRESENTATIONS

“From the Fear of 'Adding Noise to the Data' to the Confidence to 'Bend the Rules' - How OpenStreetMap Contributors' Data Quality Practices Influence Participation” - GeoJournal

- Authored a study utilizing mixed qualitative methods (84 survey responses and 15 semi-structured interviews) to analyze the sociotechnical practices of OpenStreetMap (OSM) contributors.
- Investigated how contributors navigate ambiguous quality conventions, demonstrating that maintaining "data quality" is a complex social practice involving negotiation, interpretation, and socialization.

“What is 'Good' Quality OSM Data? Exploring Perspectives and Approaches of Individual Contributors” - Poster Presentation, State of the Map US 2025

- Engaged with the user community and solicited direct feedback to understand how diverse backgrounds and motivations shape their mapping decisions and adherence to community standards.

“Democratizing State-Led Land Use Mapping to Empower the Indigenous Use of Coastal Commons” - Graduate Thesis, Pratt Institute in 2021

- Investigated the regulatory, social, and theoretical implications of data provenance in official land use maps, analyzing how government surveyors and official classification systems systematically erase the customary data practices of indigenous fishing communities.
- Conducted semi-structured expert interviews and archival analysis to challenge the neutrality of cartographic data, demonstrating how the creator identity and origin of a map dictate the visibility and rights of marginalized groups.

PROFESSIONAL EXPERIENCE (SELECTED)

Senior Analyst | Analyst | Graduate Analyst, Karp Strategies (New York, NY)

Sept 2020 – July 2024

- Advised 20+ public and private sector clients on leveraging geospatial intelligence to understand and respond to demographic, economic, housing, real estate, workforce, energy, and environmental trends.
- Implemented data integrations for civic engagement efforts for some of the country's most significant infrastructure projects, including the NY Penn Station Expansion and the Lower Manhattan Coastal Resilience project.
- Led data analysis to support 15+ planning efforts for cities across New York, New Jersey, Massachusetts, Connecticut, Maine, and Rhode Island.

GIS Fellow, Pratt Graduate Center for Planning and the Environment (New York, NY)

Aug 2019 – Aug 2020

- Led the geospatial analysis of mental and physical health outcomes and impacts for neighborhoods in NYC.

- Supported the development of a GIS-based tool to test the historical and current relationships between key systemic stressors and public health vulnerabilities in the environmental justice communities of NYC.

GIS Fellow, Pratt Center for Community Development (New York, NY)

Aug 2019 – Aug 2020

- Developed and maintained the Neighborhood Data Portal and the Basement Data Dashboard, web-based interactive GIS applications used by 100+ grassroots organizations in NYC to access and analyze open data.
- Supported land use planning, transit equity, community economic development, environmental justice, and public health advocacy projects in partnership with grassroots organizations across NYC.

Urban Design Intern, Department of City Planning (New York, NY)

Jan 2020 – May 2020

- Developed outline and content for a city-wide tool for urban and built environment design standards.
- Collaborated with the NYC Department of Information Technology & Telecommunications to conduct a geospatial assessment of the distribution of internet and media services across the city.

EDUCATION

NYU Tandon School of Engineering, New York, NY
PhD in Human-Centered Technology

Sept 2024 – June 2029 (expected)

Pratt Institute, New York, NY
MS in City and Regional Planning

Jan 2019 – Dec 2020

Anna University, Chennai, India
BArch in Architecture

Sept 2012 – May 2017

TECHNICAL SKILLS

Research: Qualtrics (Survey Design and Administration), MaxQDA, Atlas.ti (Qualitative Analysis)

Data & GIS: Python, ArcGIS Pro, QGIS

Presentation: Microsoft Office, Adobe Photoshop, Adobe InDesign, Tableau

RECOGNITION, GRANTS, & AWARDS

CUSP PhD Fellowship, New York University

Sept 2025

NYU School of Engineering PhD Fellowship, New York University

Sept 2024

Forefront Fellowship, Urban Design Forum

Aug 2023

Pratt Circle Award for Outstanding Academic Achievement, Pratt Institute

Feb 2021

GCPE Departmental Award for Commitment to Profession, Pratt Institute

Feb 2021

Student Award for Social Justice Work, Pratt Institute

Jun 2020

Taconic Grant, Pratt Center for Community Development

May 2020

GCPE Departmental Academic Scholarship, Pratt Institute

Jan 2020