Michael Trobia

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Professional Profile

Systems-oriented geography graduate with over a decade of experience in regulated healthcare manufacturing and operational planning, now expanding into applied spatial analysis and environmental systems modeling. Academic and project work integrates GIS, infrastructure systems, public health theory, and ecological modeling to examine how environmental integrity and access shape human well-being. Experienced in compliance-driven production environments, forecasting and workflow coordination, raster and vector GIS analysis, and cross-functional training.

Education

Arizona State University
Bachelor of Arts, Geography (Expected 2026)
Certificate in Geographic Information Science (2024)

- Relevant Coursework: GIS I – III; Programming Principles in GIS I – III; Sustainable Cities, Health, Illness & Society; Geographic Research Methods; Cartography & Georepresentation; Cultural Competency in Healthcare; Contemporary Environmental Issues

Technical Skills

GIS & Spatial Analysis

- ArcGIS Pro; QGIS; Network Analyst (route, closest facility, service area modeling); Raster modeling (IDW, Kriging, Trend Surface); Suitability modeling & weighted overlay; Hydrologic modeling (DEM processing, slope, aspect, flow direction, accumulation, stream order, watershed delineation); Buffer & spatial join analysis; Census & demographic data integration (block groups, tracts, ACS); Hazard expoure& accessibility analysis

Data & Systems

- Power BI; SAP BusinessObjects Web Intelligence; Advanced Microsoft Excel; Production forecasting & inventory coordination; Structured documentation systems; Regulatory traceability & compliance tracking (FDA, AABB, CLIA, DEA)

Web & Development

- HTML; CSS; JavaScript; Python; JSON-based dynamic content loading; GitHub version control; Static site deployment

Professional Experience

American Red Cross – Technologist (Component Production & Quality Control)
2020 – 2026

Mid-level operational role within a high-volume, FDA-regulated blood manufacturing environment processing approximately 500 units per shift. Progressed through technical, lead, and interim supervisory responsibilities across Production, Quality Control (QC), and Quality & Labeling (Q&L), supporting production planning, supply forecasting, compliance oversight, workforce training, and workflow coordination.

Role Progression
- **Lab Technician – Production** (Mar 2020 – Sep 2020)
- **Lead Technician – Production** (Sep 2020 – Late 2021)
- **Technologist (Acting Lead) – Quality Control** (~6 months)
- **Interim Supervisor – Quality Control** (Approx. Feb 2022 – Sep 2022)
- **Technologist (Acting Lead) – Production + Quarantine & Labeling / Manufacturing** (Post-merger)

Leadership & Operational Oversight
- Led teams of 5–10 staff members in both lead and supervisory capacities across production and quality functions.
- Coordinated workflow across high-throughput manufacturing environment processing ~500 units per shift.
- Provided shift-level decision-making support to maintain throughput, compliance, and staffing continuity.
- Acted as operational liaison between frontline staff and management during transitional leadership periods.

Production Planning & Systems Coordination

- Designed and maintained a structured supply forecasting system ("Bag List") using MPS metrics, historical blood drive data, and production utilization trends to inform warehouse pull decisions and inventory allocation.
- Coordinated cross-functional communication between collection teams, production, and warehouse to ensure manufacturing readiness and minimize supply disruption.
- Supported production planning under variable demand conditions while balancing compliance requirements and waste reduction.
- Translated operational data into actionable adjustments to improve workflow continuity and material flow accuracy.

Process Improvement & Lean Application
- Monitored discard trends and categorized root causes, contributing to measurable reductions in non-conforming product.

- Applied Lean Six Sigma principles to reduce process inefficiencies and improve yield consistency.
- Identified workflow bottlenecks and implemented lean process adjustments to improve output consistency and reduce waste.
- Standardized controlled document systems to improve audit readiness and interdepartmental transparency.
- Led internal time studies to assess workflow efficiency and identify bottlenecks.
- Served as liaison during secondary time study conducted by Process Support team.
- Participated in and supported equipment validation efforts to ensure compliance and operational readiness.

Regulatory & Quality Compliance
- Maintained DIN-based product traceability across collection, processing, and distribution stages.
- Performed end-release labeling verification and documentation review to ensure product accuracy prior to shipment.
- Ensured compliance with SOP, FDA, AABB, and CLIA standards within high-throughput production environment.

Training & Workforce Development
- Served as both classroom and on-the-job (OJT) trainer for new hires and cross-trained staff.
- Delivered procedural instruction, regulatory education, and practical workflow demonstrations.
- Supported new hire onboarding, competency validation, and cross-training initiatives.
- Provided overnight supervisory coordination to maintain workflow continuity and regulatory adherence.

Organizational Involvement
- Member, DEI Committee – contributed to initiatives supporting workplace inclusion and dialogue.
- Member, Culture Squad – supported employee engagement and team cohesion efforts.

Unither Pharmaceuticals – Packaging Associate (DEA- and Internationally- Regulated Production)
2018 – 2020

- Conducted lot-level reconciliation and batch verification under DEA, International (DEA equivalent), and cGMP standards.

- Documented material usage, waste, and warehouse returns with strict inventory accountability.
- Ensured batch completeness and documentation integrity prior to warehouse intake and distribution transfer.

Early Career Experience – Food Service Operations
2016 – 2018

- Maintained consistent employment while advancing education
- Developed workflow coordination and high-volume task execution skills

Selected GIS & Spatial Analysis Projects

Hydrology of Pumpkin Creek, Oklahoma
ArcGIS Pro | DEM Processing | Flow Direction | Flow Accumulation | Stream Order | Watershed Delineation
- Processed DEM data to derive slope, aspect, and hydrologic flow patterns.
- Modeled stream networks and classified stream order.
- Delineated watershed boundaries to interpret terrain-driven water movement.

Bald Eagle Habitat Suitability Analysis
Raster Reclassification | Weighted Overlay
- Developed multi-criteria habitat suitability model integrating environmental variables.

Phoenix Light Rail Demographic Accessibility
Buffer Analysis | Spatial Join | ACS Census Data
- Analyzed population distribution within transit corridor buffers.
- Compared block group and tract-level data to assess scale sensitivity in demographic analysis.

EV Charging Accessibility – Los Angeles
Network Analyst | Closest Facility Solver
- Modeled accessibility between schools and EV charging infrastructure.
- Evaluated route impedance and travel cost variation.

Interpolation of Emissions – Maricopa County
IDW | Trend Surface | Kriging
- Compared interpolation techniques to assess methodological differences in spatial surface estimation.

Earthquake Threat & Population Exposure – California
Buffer Analysis | Hazard Overlay
- Identified high-threat zones and aggregated population exposure within buffer regions.

Research & Academic Writing

Selected Topics:

- Health Belief Model and behavioral systems
- Culture-bound syndromes and healthcare interpretation
- Envisioning the sustainable city
- Research methods in geographic inquiry
- Urban transit systems and infrastructure equity
- Community-level intervention planning

These works explore the intersection of health, environment, infrastructure, and community systems.

Certifications & Professional Development

- Lean Six Sigma Green Belt (Obtained 2019)
- Regulatory training: FDA, DEA, AABB, CLIA compliance standards
- Ongoing GIS and spatial analysis development

Research & Professional Interests

- Spatial determinants of health and wellbeing
- Transit equity and infrastructure accessibility
- Ecological restoration and suitability modeling
- Watershed and terrain-based environmental analysis
- Hazard resilience and systems-based planning
- GIS-based decision-support dashboards for community-level planning