



Netzero Transportation Infrastructure

Undergraduate Research Opportunities

Project Goals

- Fight Climate Change
- Help Build Resiliency
- Support Transition to Net Zero
- Help Adoption of Green Energy and Infrastructure

Research

- Model and Measure Impact of Green Technologies
- Help Plan Adoption of Green Technologies
- Examples:
 - Transportation Electrification
 - Emissions
 - Energy Consumption

Project: Technical Details

- Adapt Existing code to Chicago/UIC
- Digital Twin Framework
- Visualize Data Sources on a Map
- Interact with Map Elements
- Model City Elements
- Simulate Scenarios
- Data and Sensor Security



Skills Requirements

- Javascript
- Web Languages (HTML, CSS)
- Programming Languages (Python, Java)
- Systems Knowledge
- Modeling tools and languages (Autodesk, Matlab, R)
- Knowledge about data security

Responsibilities

- Students will be paired with faculty from different institutions
 - UIC, UIUC, Cardiff
- Participation in research projects related to Net zero
- Participate in meetings
- Write code to read, ingest, and visualize data
- Write code to simulate different scenarios with synthetic data
- Write reports and participate in writing scientific papers
- Duration: January - June 2022

Contacts

- Rigel Gjomemo: rgjome1@uic.edu
- Melkior Ornik: mornik@illinois.edu
- Eleftheria Kontou: kontou@illinois.edu
- Farhad Ansari: fansari@uic.edu