Gabriel Barrett

Urban Planning and Computer Science Student at MIT

Boston, MA [redacted] [redacted] gbarrett101.github.io

Work Experience

MIT Transit Lab | Research Assistant

September 2022 - Present | Cambridge, MA

- Create models using survey, demographic, and land use data to predict what transit ridership in Chicago will look like under a post pandemic hybrid work paradigm
- Quantify the value of public transit examining the economic benefits of agglomeration that are associated with higher population density
- Simulate transportation demand in Chicago to see how reduced transit service impacts automobile vehicle miles traveled, roadway congestion, and air pollution

Boston Consulting Group | Summer Associate

June 2023 - August 2023 | San Francisco, CA

- Worked with a state Department of Transportation to establish a program to use state funds to help local organizations meet federal infrastructure grant match requirements
- Helped create public and internal dashboards that tracked infrastructure funding KPIs to make sure state is maximizing its potential federal funding
- Conducted spatial analysis and prepared presentation and memo for Governor's office highlighting areas of the state most in need of infrastructure funding assistance

Washington Metropolitan Area Transit Authority | Performance Analyst Intern

June 2022 - August 2022 | Washington, DC

- Designed algorithm in R that creates a network graph of the DC metro system which can represent in-train travel time, station walk time, headways, and transfers
- Ran shortest path algorithm on graph to analyze how service adjustments and disruptions would affect station-to-station travel time and rail on-time performance
- Automated process of retrieving bus and rail safety data from SQL databases to add to benchmarking dashboard built with PowerBI

MIT City Form Lab | Undergraduate Research Assistant

February 2022 - June 2022 | Cambridge, MA

- Modeled pedestrian flow around Los Angeles transit stations using Rhino3D to add to report on overall transit accessibility of the LA Metro system
- Assisted validation process for computer vision model that identifies sidewalks, roads, and crosswalks to create pedestrian network

Massachusetts Department of Energy Resources | Policy Analyst Intern

June 2021 - August 2021 | Boston, MA (Remote)

- Studied electric grid modernization plans around the country to create case study sheets to guide DOER policy recommendations
- Developed presentation on the benefits and consequences of allowing for the intervention public utilities into the private electric vehicle market

Arlington County Deptartment of Environmental Services | Transportation Planning Intern

June 2021 - August 2021 | Arlington, VA

- Coordinated interagency meetings to collect input on the county's bike infrastructure benchmarks and compiled findings into a one pager
- Reviewed and summarized public feedback for bike network in rapidly growing National Landing BID

Education

Massachusetts Institute of Technology

Master in City Planning

Expected June 2024 | Cambridge, MA

S.B. Urban Science and Planning with Computer Science

June 2023 | Cambridge, MA

Minor: Spanish Studies

GPA: 5.0/5.0

Thesis: Night Owl Buses in Boston, Assessing an overnight transit service that can serve late shift workers in Boston

Honors: Phi Beta Kappa

Skills

Programming

Proficient:

Python • Java • R • LaTeX

Familiar:

JavaScript • HTML

Libraries/Frameworks

Pandas • PyTorch • Django

Software

QGIS • ArcGIS • Rhino3D • Tableau • Eclipse SUMO • Excel

Languages

English (Native)
Spanish (Fluent)

Coursework

Spatial Analysis
Machine Learning
Pedestrian Modeling
Statistics and Data Analysis
Software Construction
Algorithms
Public Policy
Negotiations

Interests

Maps • History • Public Transit • Linguistics • Playing Saxophone • Basketball