

Diego A. Temkin

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Education

Massachusetts Institute of Technology, SB in Computer Science and Engineering, Sep 2022 – May 2026
Urban Planning – Cambridge, MA, USA

- GPA: 4.5/5.0
- **Coursework:** Distributed Computer Systems Engineering, Design and Analysis of Algorithms, Transportation Planning and Policy, Modeling Pedestrian Activities

Skills, Honors, and Interests

Programming Languages: Python, TypeScript, Java, C, C#, SQL, RISC-V Assembly, Go, Dafny, GIS

Languages: English (Native), Spanish (Native)

Honors: QuestBridge NCM Scholar, National Merit Finalist, HSF Scholar

Interests: Software Development, Data Science, Transportation Operations and Planning

Professional Experience

CEE Research & Innovation Scholar, Advanced Undergraduate Research Program, Aug 2025 – Present
MIT Laboratory for Information and Decision Systems – Cambridge, MA

- Developed a general-purpose bus network redesign framework using monotone co-design theory and Mixed-Integer Linear Programming to jointly optimize cost, coverage, and equity objectives while satisfying fleet, labor, and policy constraints.
- Built integrated data pipelines combining OpenStreetMap networks, GTFS schedules, AVL-derived travel times, OD demand, and ACS demographic data to generate transparent Pareto frontiers for multi-objective transit planning tradeoff analysis.
- Applied the framework to a real-world school bus network in Framingham, MA to evaluate the existing routing system, generate alternative designs, and demonstrate structurally achievable improvements in efficiency, coverage, and accessibility.

Junior Associate Engineer, Reliability Engineering & Asset Management, Washington Metropolitan Area Transit Authority – Washington, DC Jun 2025 – Aug 2025

- Supported data governance efforts in a centralized transit asset management database to streamline analysis for more than 500,000 assets and work orders.
- Integrated information from multiple sources to create a comprehensive asset management dashboard, enabling real-time monitoring and decision-making.
- Designed and deployed a department-wide web application to spatially identify choke points in asset rehabilitation efforts, used to enhance data-driven prioritization of financial resources.

Student Trainee, Innovative Research Design and Deployment Division, U.S. DOT Jun 2024 – May 2025
Volpe National Transportation Systems Center – Cambridge, MA

- Created analysis and validation pipelines for the cross-agency Work Zone Data Exchange (WZDx) project, used by over 27 states, to facilitate open standard development.
- Document and develop tools for interfacing with the General Modeling Network Specification (GMNS), allowing for increased ease-of-use for modelling real-world transportation networks.
- Support the interdepartmental U.S. DOT AI Working Group, enhancing the ability for key stakeholders to engage with modern technological developments.

Data Science and GIS Researcher, MIT Department of Urban Studies and Planning – Cambridge, MA Jun 2023 – Jun 2024

- Analyzed nature-based urban infrastructure solutions research data and developed a digital platform that can be used in community outreach to implement priorities.
- Integrated spatial data analysis and GIS software in Python to create an online prototype for digital mapping and deployed a final iteration using a React front-end.
- Configured Linux server infrastructure to host and manage web production, enabling widespread usage.

Machine Learning and Plasma Science Researcher, Plasma Science and Fusion Center Feb 2023 – Jun 2023
at MIT – Cambridge, MA

- Created a digital adaptation of the long-standing Alcator C-Mod tokamak experiment, which was operated for 25 years and took 50k shots (instances) of plasma experiments.
- Constructed a generative surrogate model that can predict and categorize plasma current state, in order to evaluate the model's applicability to future experiments as a fast predictor of performance.
- Practiced machine learning applications in plasma science and contributed to this field through hands-on research and experimentation.

Leadership

President, Dormitory Council May 2025 – Present
Advocate for more than 3500 undergraduate students residing in university housing to administrators. Engaged with various stakeholders across the Institute to advance policy issues and pilot programs relevant to student life, managing and allocating a budget of over \$75,000.

Student Developer, Member-at-Large, Student Information Processing Board Feb 2025 – Present
Develop and spearhead the creation of multiple web applications using modern frameworks (such as React, Svelte, Node.js, etc.) to enhance the technological experience of students, used by thousands of students on a daily basis.

Publications

NbS and policy communication Nov 2024
Cong Cong, *Diego Temkin*
[10.1016/B978-0-443-21782-1.00008-7](https://doi.org/10.1016/B978-0-443-21782-1.00008-7) (Nature-Based Solutions in Supporting Sustainable Development Goals)