Diego A. Temkin

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Education

Massachusetts Institute of Technology, SB in Computer Science and Engineering,

Sep 2022 – Jun 2026

Urban Planning

• GPA: 4.5/5.0

• Coursework: Distributed Computer Systems Engineering, Design and Analysis of Algorithms, Applied Category Theory for Engineering Design, Modeling Pedestrian Activities

Skills, Honors, and Interests

Programming Languages: Python, JavaScript, 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

- Develop a novel, category theory-based framework for co-designing and modeling urban bus systems, enabling data-driven optimization of routes with respect to efficiency, reliability, and environmental impact at full city scale.
- Integrate generative AI techniques into transit system modeling, establishing standardized data protocols and customizable tools that empower stakeholders to make informed decisions and evaluate trade-offs in bus network design.
- Partner with public transit agencies to validate and test modeling tools, delivering an interactive catalogue of case studies and actionable insights for future network redesigns.

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

- 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 – Jun 2023 – Jun 2024 Cambridge, MA

- 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 (Nature-Based Solutions in Supporting Sustainable Development Goals)