

# Hetvi Sheth

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## Architect | Energy Modeling and Automation Expert | Regenerative Design Enthusiast

Licensed architect (India) and LEED GA candidate with expertise in energy modeling, daylight simulation, and python-driven automation. Focused on integrating energy analytics and innovative design for high impact solutions, bridging sustainability and regeneration through system-based approaches.

### Education

**Carnegie Mellon University**, Pittsburgh, PA

**May 2025**

*Master of Science in Architecture - Sustainable Design (MSSD)*

*GPA: 4.02/4.00*

- **Relevant coursework:** Environmental Performance Simulation; Building performance modeling; HVAC and low carbon building; Shaping daylight; Climate and energy; GIS in infrastructure planning; Generative modeling; Scripting & parametric design; Principles of computing (python); Triple bottom line analysis; life cycle analysis (LCA), Sustainable materials (Circular economy)

**Mumbai University**, Mumbai, India

**May 2021**

*Bachelor of Architecture (B.Arch.)*

### Work Experience

**HGA, Sustainability Intern**, Milwaukee, Wisconsin

**May 2024 – Aug 2024**

- Spearheaded the development of a strategic LEED workplan, analyzing LEED v4, v4.1, and v5 to future-proof workflows, uncovering 25% recurring errors across 10 LEED projects' USGBC feedback, and proposing process improvements.
- Created a user-centric LEED guidebook for engineering disciplines, streamlining cross-disciplinary collaboration with step-by-step guides for each credit, with timelines, resources and common pitfalls with clear, process diagrams ensuring better outcomes.
- Modeled energy performance (NEO tool) for a 5,000 sq. ft. transient project in Virginia, uncovered tool inefficiencies, leading to an internal assessment to establish streamlined software usage protocols.
- Optimized an internal energy modeling tool by developing a custom Grasshopper component with Python scripting, automating Excel data exports, reducing simulation time by 5 seconds and 6 clicks per run, enhancing efficiency and tool adoption among architects for deliver faster, data-driven performance analyses.
- Spearheaded a pivotal thermal mass study, comparing prescriptive steel frame vs. concrete masonry unit (CMU) assemblies in Santa Monica, delivering data-driven insights that demonstrated a 30% reduction in peak cooling demand with 8" CMU, and a 20% higher energy consumption for steel frame assemblies, influencing sustainable design choices.

**Carnegie Mellon University, Graduate Teaching Assistant**, Pittsburgh, Pennsylvania

**Jan 2024 – May 2025**

- Equipped 20+ students with practical skills in energy modeling tools (IESVE, Design Builder, eQuest) in Building Performance Modeling course while collaborating with professor to streamline course operations and improving student experience.
- Guided 53 students through HVAC and daylight simulation (Climate Studio) ensuring energy-efficient studio designs aligned with the 2024 building codes. Developed resources to simplify concepts for Design integration of active building system course.
- Mentored 17 students in leveraging simulation tools (Climate studio) for designing timber structures and VR technology for compelling presentations, enabling them to effectively communicate as a part of the Praxis II M.Arch Studio.

**Beyond design, Architect**, Mumbai, India

**Oct 2021 - Nov 2022**

- Spearheaded 8 fast-track architecture and interior design projects, including a building with 68% reusable/recyclable construction. Managed client communications, proactive forecasting and issue resolution, maintaining a 100% client satisfaction rate.
- Optimized business operations by refining the company website and centralizing resource management, improving efficiency across the board. Mentored and trained 9 new hires, ensuring smooth onboarding and integration into the company's workflows.

### Academic Projects

**Daylight and Energy Optimization: how can a 70% window to wall ratio perform as a 30% window to wall ratio?**

- Optimized a 70% window-to-wall ratio (WWR) to achieve similar energy and daylight performance as a 30% WWR, balancing occupant comfort, daylight access, and energy efficiency with user experience. Analyzed various WWR configurations (Climate studio), revealing that a well-optimized 70% WWR reduces peak energy use by 16.8% and EUI by 12% compared to a 30% WWR.

**Commercial Building design for Comfort and Energy Efficiency, Environmental performance simulation** (Led the group work)

- Conducted climate and solar radiation analysis to optimize form, orientation, and daylighting strategies during early design, using Rhino, Grasshopper, Climate Studio, Climate Consultant, and Energy Plus, achieving a 66% reduction in EUI (45.95 kW/m<sup>2</sup>/yr vs. AIA2030 baseline of 283.91 kW/m<sup>2</sup>/yr) and significantly lowering carbon emissions and operational costs.

### Skills

- **Software skills:** Rhino, Grasshopper, Honeybee, IESVE, Design Builder and Energy Plus, Neo tool, EQuest, REM/Rate, Climate studio, eddy3d (computational fluid dynamics simulation), Enscape, Twinmotion, Virtual Reality (VR), Python, ArcGIS, Life Cycle Assessment (LCA), AutoCAD, Google Sketchup, Adobe Photoshop, Indesign, Illustrator, Microsoft Office, ArchiCAD, Revit.
- **Soft skills:** Analytical thinking, Problem Solving, Leadership, Adaptability, Strong Work Ethic, Creative Thinking.

### Certifications & Achievements:

**Licensed Architect**, Council of Architecture, India, (CA/2021/137584)

**LEED Green Associate candidate**

**Merit Scholarship**, \$2k for academic excellence by Carnegie Mellon University

**2024**

**Merit scholarship**, \$16K for academic excellence by Carnegie Mellon University

**2023**