

SARA LAUDEMAN AIA | NCARB

RESEARCH ARCHITECT

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📍 Atlanta, GA

A registered architect in Georgia with a proven track record in construction data management, carbon accounting, and architectural project management. I led development of a comprehensive carbon accounting platform at cove.tool, introducing enhancements in data management and pioneering structural estimation methods. Adept at bridging the worlds of professional architectural practice and research, my foundation in both architecture and mathematics links the worlds of professional architectural practice, data management, and cutting-edge research

PROFESSIONAL EXPERIENCE

ARCHITECTURAL RESEARCHER II JANUARY 2022 - PRESENT

COVE.TOOL

- Led development of the Carbon Feature, a building carbon accounting platform within cove.tool, including data management and integration, establishing estimation methodologies, software development, and interdisciplinary coordination.
- Coordinated external data integration, including EC3, CLF, and other carbon, material, performance, and building standards.
- Developed and implemented an automated structural estimation engine for preliminary quantity and carbon estimates.
- Provided external training and support to architectural, engineering, and consulting firms in use of sustainability software, analysis best practices, and process integration workshops.
- Led audits of internal databases of EPDs, building products, and standards for usability, accuracy, and structure; coordinated proposal and implementation of updates and data-driven improvements.

PROJECT MANAGER JULY 2020 - DECEMBER 2021

HISCUTT & ASSOCIATES, INC.

- Served as architectural project manager and project designer for multiple full-scope retail/commercial architectural projects
- Worked directly with clients and consultants on design deliverables, development, and permitting documents.
- Oversaw project progress from proposal to construction administration, including initial design, technical documentation, client presentation, and permitting processes.

ADJUNCT INSTRUCTOR AUGUST 2020 - DECEMBER 2022

CENTRAL PIEDMONT COMMUNITY COLLEGE

- Instructor of record for Elementary Statics for Architecture, teaching design literacy, structural systems, and introductory statics. Coordinated curriculum review and development in alignment with course expectations and articulation agreements.

EDUCATION

MASTER OF ARCHITECTURE MAY 2020

GEORGIA INSTITUTE OF TECHNOLOGY

BACHELOR OF ARTS IN ARCHITECTURE

BACHELOR OF SCIENCE IN MATHEMATICS MAY 2018

UNIVERSITY OF NORTH CAROLINA - CHARLOTTE

ASSOCIATES OF SCIENCE IN ENGINEERING MAY 2014

DURHAM TECHNICAL COMMUNITY COLLEGE

KEY SKILLS

Data Analytics

Database Management

Project Management

Statistical Analysis

Software Development

Python/SQL/C#/R

Data Visualization

Building Carbon Analysis

Implementation Planning

Methodology Design

Computational Design Modeling

Impact Analysis

Verbal & Written Communication

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TECHNICAL SKILLS

LCA, CARBON, AND ENVIRONMENTAL IMPACT

Strong background in architectural research and software development, with a focus on LCA, embodied carbon, and building energy modeling. Professional experience in impact analysis, especially relating to carbon emissions and environmental impacts of the building and construction sectors.

PROGRAMMING & DATA ANALYTICS

Significant experience in database management and implementation, as well python, C#, SQL, and R. Experience with both writing and implementing database integration and management proposals.

DESIGN AND DATA VISUALIZATION

Proficient with visualization tools such as the Adobe Suite, architectural drafting tools, and python/R for data visualizations. Significant experience in communicating complex concepts verbally and graphically.

STATISTICS AND MATHEMATICS

Solid grounding in mathematical principles, with a Bachelor of Science in Mathematics and practical experience in computational design modeling and advanced statistics.

PROJECT MANAGEMENT

Experience managing complex projects to completion. Proven leadership in developing new features, data management, and technical implementation.

COMMUNICATION TOOLS

Strong communication skills in verbal, written, and graphic formats, including UI/UX design. Veteran

PUBLICATIONS

EARLY-STAGE STRUCTURAL STEEL ESTIMATION FOR EMBODIED CARBON DECISION MAKING

Laudeman, Sara; Raja, Twisha; Bansal, Nilesh. "Early-Stage Structural Steel Estimation for Embodied Carbon Decision Making." ASHRAE Building Decarbonization Conference (2022).

IMPROVED CARBON IMPACT ANALYSIS THROUGH STAKEHOLDER-BASED METRICS AND VISUALIZATION OF CARBON DATA

Raja, Twisha; Laudeman, Sara; Bansal, Nilesh. "Improved Carbon Impact Analysis Through Stakeholder-based Metrics And Visualization Of Carbon Data." ASHRAE Building Decarbonization Conference (2022).

THE INFINITE LINE ACTIVE BENDING PAVILION: CULTURE, CRAFT AND COMPUTATION

Noel, Vernelle A. A., Niloofar Nikookar, Jamieson Pye, Phuong "Karen" Tran, and Sara Laudeman. "The Infinite Line Active Bending Pavilion: Culture, Craft and Computation." CAADRIA (2021).

DERIVATION, FORM FINDING, AND STRUCTURAL ANALYSIS IN CATENARY DERIVATE SHELLS

Laudeman, Sara. "Derivation, Form Finding, and Structural Analysis in Catenary Derivate Shells" UNC-Charlotte Honors Thesis (2018).