Ellie Madsen

EDUCATION

Columbia University Graduate School of Architecture, and Planning, and Preservation	2025-Present
M.S. Computational Design Practices	
Brown University	2018-2022
B.A. Computer Science, B.A. Environmental Studies	
New London High School, Wisconsin	2014-2018
Valedictorian	

RESEARCH

Research Assistant | Center for Climate Systems Research	2026-Present
Columbia University Climate School & NASA Goddard Institute for Space Studies	
Research Assistant | Visualizing Icesheets in Extended Reality (VISER)	2025
Columbia University Computer Graphics and User Interfaces Laboratory & Polar Geophysics Group	

TEACHING

Teaching Assistant | Columbia University Graduate School of Architecture, and Planning, and Preservation	2026-Present
Teaching Assistant | Brown University Department of Computer Science	2021-2022
Data Structures and Algorithms, Object-Oriented Programming, Socially Responsible Computing	

PROFESSIONAL

Software Engineer II | Pinterest	2021-2025
Retrieval infrastructure, vector databases, distributed systems, cluster management, embedding quantization	
Intern | City of Providence Office of Sustainability	2020
Library Assistant | Brown University Sciences Library	2018-2022
Intern | New London Engineering	2018-2019

AWARDS

Merit Scholarship | Columbia University GSAPP	2025
Dean's Scholarship | Columbia University GSAPP	2025
SPRINT Fellowship | Institute at Brown for Environment and Society	2020
National Merit Scholar | College Board	2018
Valedictorian | New London High School	2018

TECHNICAL SKILLS

Coding Languages: C++, Java, Python, JavaScript, HTML, CSS
2D: Figma, Adobe Illustrator, Photoshop, InDesign
3D: Rhino3D, Grasshopper, Unity (VR, XR, MRTK), Blender, Solidworks
Geospatial: QGIS, ArcGIS, GeoPandas, OSM, Mapbox, Google Earth Engine
Development: Git, AWS, JIRA, Bash, Kubernetes
Methods: geospatial analysis, computer graphics, data visualization, parametric modeling, machine learning, generative design, cloud computing, UI/UX, search infrastructure, system architecture, distributed systems, cluster management, vector databases, quantization, knowledge graphs, optimization and scalability

YOGA

Yoga Instructor | Dodge Fitness Center	2025-Present
Hatha, Vinyasa	
200 Hour Yoga Teacher Training | One Yoga, Thailand	2025
Asana, Pranayama, Meditation, Philosophy, Anatomy	