Chuyi Wang (Angie)

angelinawcy@outlook.com | 412-951-6078 | Portfolio Website | LinkedIn Profile

EDUCATION

Carnegie Mellon University Pittsburgh, PA, USA
Master of Science in Sustainable Design Aug. 2022 – May. 2024

- Coursework: Environment Performance Simulation; Building Performance Modeling; HVAC Systems for Low Carbon Buildings; Augmenting Human Experience in Environments; Responsive Environment(IoT); Sustainability and Productivity; Sustainable Materials; Ecological Design
- Research Areas: Building Performance & Diagnostic; Sustainability; Ecological Design; Environmental Adaptive IoT; Computational Design
- Thesis: A Computational Design Framework of an Adaptive Sound Barrier System for Noise Reduction in Urban Context
  DOI: https://doi.org/10.1184/R1/25979287.v1

Southern Methodist University Dallas, TX, USA
Bachelor of Arts in Creative Computation; Minor in Arts Aug. 2017 – May. 2021

- Coursework: Creative Computation; Data Visualization; Graphic Design; Human-centered Design; 3D Animation & Modeling
- Research Areas: Data Visualization; Human-centered Design; Inclusive Design

PROFESSIONAL SKILLS

Energy Modeling and Calculation, Building Performance Modeling, Environment Performance Simulation, Life-cycle Assessment, Sustainable Materials, Circular Economy Principles, Ecological Design, Algorithm-based Design, 3D Design, Spatial Design, Machine Learning, Data Visualization, OpenCV, Interactive Space Design, Human Factors Engineering, User Experience, Arduino, Raspberry Pi, Edge Computing
Fabrication Skills: Laser Cutting; 3D Printing; CNC Milling
Software Skills: Rhino + Grasshopper, ArcGIS, IES-VE, EnergyPlus, Adobe kit(Ai/Ps/Id, etc.), Microsoft kit, Figma, AutoCAD, etc.
Programming Languages: Python, Java, C, C++, JavaScript, HTML, CSS

RELEVANT PROJECTS

Building Performance Modeling

- Developed a building energy model for TCS Hall at CMU, incorporating three distinct HVAC systems to simulate energy consumption and carbon emissions; Implemented retrofitting solutions, achieving a 17.2% reduction in site Energy Use Intensity(EUI), to enhance operational efficiency.
- Complied and analyzed emission and energy reports, demonstrating a commitment to a data-driven approach to optimizing building performance.

Environmental Performance Simulation

- Designed and assessed an environmentally sustainable office building, achieving thermal and visual light comfort through iterative and computational evaluations, and compliance with LEED standards.
- Developed data visualizations of simulations to quantify luminous and thermal characteristics; generated report and analysis on operational efficiency.

Shaping Environments: Experiments In Geometry And (Waste)Matter

- Developed a sustainable biomaterial from sawdust powder, wood chips, and magnet powder, creating a magnetic field to enhance plant growth.
- Conducted a comprehensive design process involving pattern discovery, geometric experimentation, computational synthesis, and kirigami fabrication, incorporating a Life Cycle Assessment to ensure minimal ecological footprint and practical application in environmental stewardship.

PROFESSIONAL EXPERIENCE

INTRO TO PHYSICAL COMPUTING COURSE May 2023 – Present
Carnegie Mellon University, Pittsburgh, PA

TEACHING ASSISTANT

- Led course progression and guided student projects during the professor's paternity leave for a class of 15 students; Offered technical support to students in software and hardware; supported laser cutting/ 3D printing fabrication processes.

RESEARCH ASSISTANT

- Redesigned lab layout by implementing user-centric design principles to enhance space and tools usability based on user behavior;
- Collaborated with faculties to design an online inventory database website with detailed UI, optimized website interaction by implementing NFC and QR codes with electronic parts sample codes and simplified staff inventory management.

COURSE DEVELOPER, INTRO TO DATA STRUCTURES COURSE May 2023 – Feb 2024
Carnegie Mellon University, Pittsburgh, PA

- Collaborated with faculties to develop comprehensive course materials by leveraging interactive learning methodologies, resulting in a 20% increase in student performance on data structure concepts;
- Designed and prototyped a series of interactive teaching tools and devices to aid students in understanding data structures; improved course structure and learning experience by conducting usability analysis based on students' performance and feedback.

AWARDS AND HONORS

- Carnegie Mellon University Commendation for Academic Excellence (GPA 4.0 of 4.0) 2024
- Carnegie Mellon University FRFF Grant on Thesis Project: Urban Sonification 2024
- Carnegie Mellon University - Tikkun Olam Makers Fellowship 2023