

Miaoyang Ye

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EDUCATION

Carnegie Mellon University

Master of Science in Sustainable Technology

Pittsburgh, PA

Aug. 2023 – May 2025 (Estimated)

- Coursework: Environmental Performance Simulation(A+), Building Performance Modeling, Web Application, Software Construction, Data Structure, Machine Learning, Generative AI, IoT

South China University of Technology

Bachelor of Architecture, Minor in Computer Science and Technology

Guangzhou, China

Sep. 2018 – June 2023

EXPERIENCE

Ceramics Lab Research Assistant

Carnegie Mellon University

Sep. 2024 – Current

Pittsburgh, PA

- Analyzed wind flow through brick units of different materials Using OpenFOAM CFD tool for better layouts.
- Visualized simulation data through D3 library with JavaScript for better interpretation.

Software Engineer Intern - Sustainability

TravelWits

July 2024 – Aug. 2024

Pittsburgh, PA

- Enhanced AI prompt workflows in **ASP.NET** and refined query logic for hotel searches in ambiguous or large-scale addresses, improving response quality and achieving a **20%** improvement in user satisfaction.
- Developed a cost estimation tool for API inquiry processing using **TiktokenSharp** in **C#**, enabling token length calculation and optimizing request batching, reducing expenses by **30%** while maintaining responses quality.
- Collaborated with the design team using **Figma** to prototype and refine the email AI agent interface, and developed the front-end with **React.js** and **HTML/CSS** to enhance response clarity for an intuitive user experience.

PROJECTS

Self-Supervised Energy Data Imputation | *Python, Pytorch, Colab, Weights & Biases*

- Enhanced GAIN performance for energy data imputation using a self-supervised AI framework with PyTorch.
- Developed robust data preprocessing workflows to optimize time-series input data, ensuring reliability and performance for prediction.

PetPals: Online Pet Social Web App | *Python, Django, React, SQL, OpenAI API, AWS*

- Designed and developed a responsive web application using React.js, Django, and MySQL, leveraging Figma for wireframing and prototyping to ensure efficient user data management and personalized interactions.
- Implemented an AI-driven recommendation system powered by OpenAI API, enabling intelligent user matching and streamlining workflows for personalized pet social interactions.
- Deployed the application on AWS EC2 and established a CI/CD pipeline with JUnit for automated testing, deployment, and continuous integration, ensuring scalability and development efficiency.

Environmental Performance Simulation for an Office Building in Miami | *ClimateStudio, Ladybug*

- Led detailed analysis of solar radiance, glare, and thermal conditions through ClimateStudio and Ladybug, significantly enhancing building performance for LEED certification.
- Refined design options iteratively based on simulations to achieve optimal energy efficiency and occupant comfort.
- Compiled process and findings into three reports, detailing design improvements and strategies.

Computational Design of Education Building Project | *Rhino, Grasshopper, Python*

- Developed generative 3D education-building models and evaluation criteria, improving efficiency and innovation.
- Utilized Rhino, Grasshopper, and Python to analyze and optimize designs for better spatial use.

2020 World Solar Decathlon Middle East: “X-House” | *First Prize, team member*

- Contributed to the signs and exhibit design and on-site construction, enhancing user experience.
- Managed the team’s publicity website using HTML/CSS and JavaScript, enhancing project visibility and outreach.

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C++/C#, HTML/CSS, SQL

Software: Rhino, Grasshopper, AutoCAD, Adobe Photoshop, Illustrator, InDesign, SketchUp, Enscape, ArcGIS, e-QUEST, IESVE, Microsoft Office

Frameworks: React, Node.js, Spring Boot, Django, LangChain, FastAPI, JUnit