Tianle Chen

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EDUCATION

2024 Aug-
2026 May

Carnegie Mellon University, *Master of Science in Computational Design*   Pittsburgh,PA

- **Relevant Coursework:**
  Web development and Interactive Data Visualization (Java,Svelte,D3), Stable Diffusion and Projection Mapping, Foundations for Machine Learning, Programming in Python
- **Relevant Projects:** Generative AI in Architectural Design: Synthetic Simulations for Realistic Texture Deterioration in Architectural Facades

2018 Aug-
2024 May

Rice University, *Bachelor's Degree in Architecture*   Houston,TX

- 2018-2024, **GPA:** 4.0
- Rice Architecture Paris program (2023 Fall)
- **Relevant Projects:** Evolutionary Optimization Algorithm in Urbanism: Programmatic Solutions for Adaptive Urban Revitalization on the U.S.-Mexico Border; Parametric Membrane Architecture: Computational Canopy Design for Rainwater Management
- **Honors & Awards:**
  President Honor Roll (4 semesters); Institutional Honor Cum Laude;
  Margaret Everson-Fossi Traveling Fellowship
  STOA International Architects Inc. Award

RESEARCH

2024 Aug-
Present

Immersive Technologies in Digital Fabrication, *Mixed Reality Research Assistant*   Pittsburgh,PA

- Engineered a real-time parametric design pipeline in Fologram with Grasshopper and Python, boosting workflow efficiency by automating updates during design processes.
- Synchronized robotic arms with Microsoft HoloLens for precise wire-bending, merging digital and physical environments to optimize complex-shape fabrication.

2021 May-
2024 May

CNT Fiber-based Experimental Models in Architecture, *Computational Research Assistant*   Houston,TX

- Co-authored and published results in *Segmental Ceramic Hollow Structures: Prefabricated Post-tensioned Columns for Ecological Urban Infrastructures* (IASS 2024 Symposium)
- Led a research team of 4 on designing and simulating kinematic folding canopy systems using Kangaroo Physics, incorporating an advanced origami folding script to model dynamic movements, enabling rapid prototyping and enhanced structural adaptability.
- Optimized fiber-reinforced ceramic column designs using stereotomic techniques and collaborated with Cumella to simulate robotic arm cutting, improving communication and precision in fabrication with engineering team in Barcelona.

WORK
EXPERIENCE

2022 July-
2023 May

NBBJ Design, *Junior Designer*   Los Angeles,CA

- Spearheaded the design of three advanced facade systems for a convention center, utilizing custom Grasshopper scripts to automate geometries and maximize performance.
- Directed a laboratory design study in Oxford at the DD phase, ensuring technical precision through seamless cross-team collaboration.
- Produced detailed Revit drawing sets for a headquarters office, improving workflows and maintaining team consistency of production materials.

2021 May-
2021 Aug

EID Architecture Studio, *Intern Designer*   Shanghai,China

- Directed development of parametric facade solutions using Grasshopper for a shopping complex in Schematic Design phase, driving iterative collaboration with engineers
- Formulated natural lighting strategies and executed Ladybug analysis for a Wuhan skyscraper crown, maximizing performance through coordinated team efforts.

2020 May-
2020 Aug

PURE Architecture Studio, *Intern Designer*   Shanghai,China

- Generated high-quality client presentation renderings using SketchUp, Lumion, and Enscape, collaborating with the design team to clearly communicate project concepts.
- Executed 3 case studies on fast construction methods for removable dwellings, integrating insights into the forest library design to improve project outcomes.

SOFTWARE SKILLS

Design & Visualization: Rhino, Grasshopper, Figma, Revit, Enscape, V-Ray, Photoshop, Illustrator, InDesign
Programming & Data: Python, JavaScript, HTML/CSS, Svelte, D3, ArcGIS, Comfy-UI, Excel
Additional Tools: Notion (advanced), Trello, Slack, Miro, Git, GitHub, Fologram, HoloLens