Kexin Lu

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EXPERIENCE

OPT Industries, Inc. **Sep 2021 – Present**
Senior Computational Designer, Creative Design for Additive Manufacturing Medford, MA

- Selected Design Portfolio
- **Developed the World's First 3D Printed Segment Lash:** Invented and spearheaded the development of a revolutionary 3D printed segment lash, enhancing the company's portfolio and securing a competitive edge in the beauty industry. The product is set to launch in September 2024.
- **Innovative Footwear Component Design:** Led the design of a groundbreaking footwear component that significantly improved product performance and comfort, resulting in a high-profile industry partnership.
- **Entertainment Industry Projects:** Created a set of bespoke skin costumes and a digital texture library inspired by marine biology and conceptual character design input for entertainment clients, greatly enhancing immersive audience experiences.
- **Decorative 3D Printed Wallpaper:** Innovated a decorative 3D printed wallpaper in collaboration with a major industry player, yielding a highly versatile product. Exhibited at Design Post Cologne, the product drew significant attention, increasing client inquiries and enhancing the company's market presence.
- **Advanced Computational Tools Development:** Developed and refined "Attribute Mapping" algorithms and customized visualization tools using skills in C# scripting and geometry processing, greatly enhancing design team efficiency and creativity.

Morphing Matter Lab (CMU HCII) **Sep 2019 – Aug 2021**
Research Assistant Pittsburgh, PA

- **Developed Real-Time Visualization Tool for Shape-Changing Interface:** Led the research and development of hydrogel-based DIY underwater morphing artifacts, created an innovative tool for real-time visualization of shape-changing interfaces, significantly advancing the rapid prototyping of such structures, resulting in the publication "Hydrogel-based DIY Underwater Morphing Artifacts."
- **Generative Modeling of Facial Prosthesis:** Built a pipeline for generative modeling of facial prostheses from any given 3D scanned human face model, enabling the digital fabrication of customizable and transformative facial prosthetic makeup. This work was published as"Morphace: An Integrated Approach for Designing Customizable and Transformative Facial Prosthetic Makeup." and received an honorable mention in the Students category in Fast Company's 2022 Innovation by Design Awards.
- **Texture Mapping of Developable Shapes:** Utilized computational design principles to generate textured developable geometries, culminating in the publication "Inverse Design Tool for Asymmetrical Self-Rising Surfaces with Color Texture," which provided a novel approach to designing dynamic and adaptive materials with rich textures.

China Architecture Design & Research Group **Mar 2017 – June 2018**
BIM Technician, Generative Design and Parametric Modeling Beijing, CHINA

- **BIM and Parametric Facade Modeling:** Produced detailed BIM models and parametric facade designs, including comprehensive construction drawing sets for elevations and specific elements like elevator details, enhancing project accuracy and efficiency.
- **Urban Planning and Facade Design:** Contributed to various project scopes, from urban planning of commercial streets to the facade design of commercial complexes. Joined during the Construction Documentation (CD) and Construction Administration (CA) phases, ensuring design integrity and project continuity.
- **Material Coordination:** Managed communication and follow-up with material suppliers, ensuring timely delivery and quality compliance, which contributed to the smooth progression of construction phases.

The Palace Museum **Feb 2019 – May 2019**
3D Specialist Beijing, CHINA

- **3D Scanning Data Processing:** Analyzed 3D scanning data of historical parts, converting them into low-poly geometries with high-resolution texture information.
- **Virtual Construction and Assembly Plan:** Proposed and developed a virtual construction and assembly plan for the restoration of the Fengxiandian Shrines, facilitating detailed and accurate restoration efforts while preserving the cultural and historical integrity of the site.

M.O.D.E.S Studio **June 2015 – June 2019**
Associate Designer Beijing, CHINA

- **"Yan" Ancestral Hall:** Proposed and implemented computational solutions to meet design and fabrication requirements, produced detailed diagrams instructing the construction process, ensuring clear communication and smooth execution of design intentions.
- **The "Plug-in" Life:** Built fabrication solution to implement its unique and modular design concept, demonstrating creativity and forward-thinking in design for manufacturing.

EDUCATION

Carnegie Mellon University **Aug 2021**
Master of Science in Computational Design Pittsburgh, PA
- Admission with Merit-Based Scholarship
- Awards: Frank-Ratchye STUDIO for Creative Inquiry Stay at Home Scholarship(during the pandemic)

Beijing University of Technology **July 2018**
Bachelor of Architecture Beijing, CHINA
- Teaching Assistant of the Parametric Design (Rhino and Grasshopper) course

OTHER

- **Technical Skills**: Python, Midjourney, Rhino, grasshopper(C#, Python), Houdini, C4D, Blender, ZBrush, Revit, SketchUp, Lumion, V-Ray, Adobe Photoshop, Illustrator, InDesign, Premier, AfterEffect, Microsoft Office, GSuite