

## **Research Assistant Position with Prof. Hongyi Xu**

[Prof. Hongyi Xu's group](#) offers research opportunities **for rising senior students who are interested to pursuing a PhD under the supervision of Dr. Xu after earning their B.S. degree.** Two research topics are available to choose from:

1. Generative AI-assisted design of metamaterials and architected materials for unprecedented mechanical properties (Figure 1).
2. Generative AI-assisted digital manufacturing system: manufacturing process prediction and resilience (Figure 2).

If you are interested in artificial intelligence-assisted design and digital manufacturing, please send your resume to Prof. Xu at [hongyi.3.xu@uconn.edu](mailto:hongyi.3.xu@uconn.edu).

### **Qualifications:**

- GPA 3.7 or higher.
- Major in mechanical engineering, computer science, material science, biomechanics, or closely related fields.
- Self-motivated and enthusiasm in programming and quantitative methods.
- Although I am primarily looking for a rising senior student interested in pursuing a PhD, rising juniors are also welcome to reach out to me.

### **About Prof. Xu:**

Dr. Xu is an Associate Professor (effective August 23, 2025) in the School of Mechanical, Aerospace, and Manufacturing Engineering at the University of Connecticut. He is an award-winning faculty member and a recognized leader in the field of generative AI-assisted mechanical design and manufacturing. Dr. Xu has received multiple external honors in recognition of his work, including the ASME Design Automation Young Investigator Award (1 per year, the most prestigious awards for young investigators in the field of mechanical design), the National Science Foundation CAREER Award, selection for participation in the National Academy of Engineering EU-US Frontiers of Engineering symposium (60 of the most promising early career engineers from the US and EU were selected), four Best Paper/Editor's Choice Awards from ASME conferences and journals, a Super Paper Award from the Tire Society, and several ASME Reviewer's Awards. He currently serves as an Early Career Special Committee member and Newsletter Editor for the International Society for Structural and Multidisciplinary Optimization (ISSMO), and as an associate editor for two international journals.

Dr. Xu is dedicated to the success of the graduate students in his group, supporting them in publishing papers in reputable journals, receiving awards and honors both externally and within UConn, attending academic conferences and workshops, pursuing summer internships in industry, and collaborating with research groups in other top-tier universities and industry research laboratories. Please visit the page of current students on Dr. Xu's research website <https://hongyixu.lab.uconn.edu/people/>.

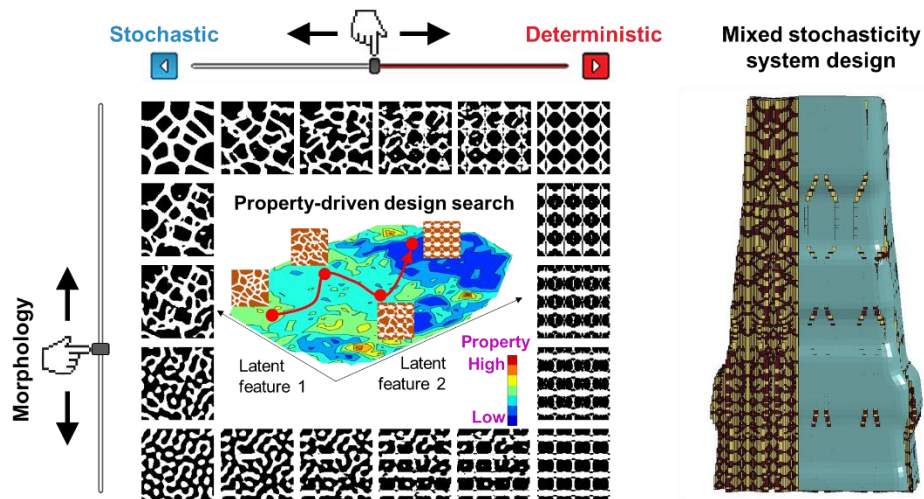
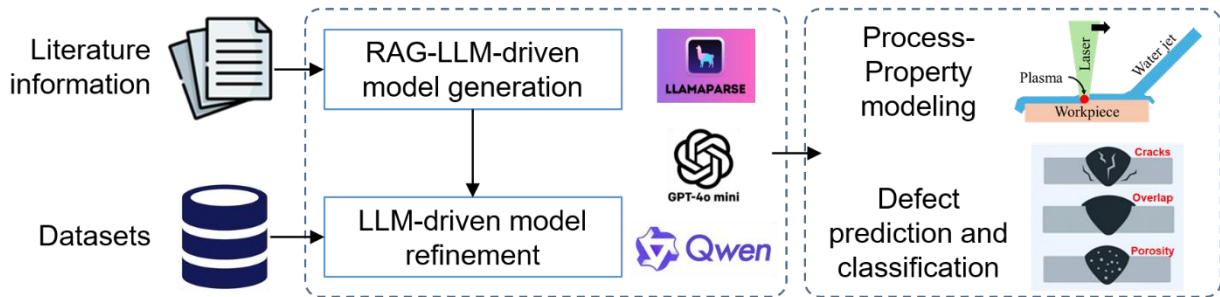


Figure 1: Overview of the project on generative AI-assisted metamaterial/architected material design

### Generative AI-assisted manufacturing process modeling



### Resilient cyber manufacturing system



Figure 2: Overview of the project on modeling and design of fluid infilled complex structures