

XINYAN YANG

PH.D. CANDIDATE | CIVIL & ENVIRONMENTAL ENGINEERING

mechanics, materials, & structures



1. Where are you from?

I am from the middle part of China.

2. Where did you get your undergrad degree from and what was your major? Do you have a MS?

I got my undergraduate degree in Structural Engineering from the Dalian University of Technology in China. I did my MS at UC Berkeley after that, which was also in Structural Engineering.

3. What attracted you to engineering?

Finding and solving real-world problems is very appealing to me. Especially for structural engineering, I like the feeling of seeing the functional structures designed by me coming into being someday.

4. What attracted you to pursue a Ph.D. in your specialty area?

I worked as a structural engineer for one year in San Francisco before joining the doctoral program. When I was working, I found I would prefer to do more research than perform repetitive calculations for beams and columns. Besides the building structure, I am also interested in smaller-scale structures. Thus, the research going on in Keten's group in protein, polymer, and meta-materials attracted me a lot and finally brought me here.

5. How do you explain your thesis research to a non-scientist?

I am working on magneto-elastic materials that embed magnetic materials, like permanent cylindrical magnets, into elastic spring systems. The 3D Kresling origami inspired my earlier work. For now, I'm more into some simplified 2D network patterns. We are trying to explore some nice properties that benefit from combining the two materials, for example, the great foldability and self-assembly phenomenon in colloidal crystals.

6. What attracted you to NU?

The reputation and ranking of NU attracted me greatly. The beautiful campus is another plus. Studying at NU brings us both the peaceful Evanston and the exciting Chicago city.

7. What has been the highlight of your time at NU and CEE?

Thanks to our nice and lovely group members, I had many first-time experiences here, like publishing my first paper, attending a conference, being mentored, and mentoring newbies.

8. What has been the most challenging aspect of your graduate school experience?

To me, the most challenging part is developing the thesis proposal. We need to figure out what we want to do instead of being given a problem to solve as we did as undergraduates. Help from both the advisor and lab mates is particularly important.

9. Can you tell us about your experience being mentored or mentoring others?

During my first year at Northwestern, I was mentored by Jenny Liu, a senior Ph.D. student in our group. She guided me from some toy projects to my research. I learned to frame research questions, think critically, and manage my codes. In the following years, I got a chance to mentor undergraduates and MS students doing research in our group. I enjoyed the mentorship very much.

10. What are your interests or hobbies outside of your research?

I like sports, such as badminton, frisbee, bouldering, etc. I'm not professional in any of them, but I just love the feeling of burning calories. Also, I'm very into movies. I always keep an eye on the new releases at AMC.

