Reed: ?Discover your passions.? 

Serrae Reed, a mechanical engineering senior at the Cullen College of Engineering, is at a bittersweet point in life.

On one hand, she?ll be graduating this year and leaving behind her family and her University of Houston community ? both of which supported her through thick and thin. On the other hand, she?s won one of the 60 prestigious 2018 Ford Foundation Predoctoral Fellowships and is on her way to Yale University to earn her Ph.D. in mechanical engineering and materials science.

?I?m very grateful for everything UH has done for me. Being here has always made me feel that I had a lot of people on my team,? Reed said. ?It was a really good place to grow and succeed for the last four years.? 

At times her journey seemed a bit atypical, but Reed likes to learn, explore and forge her own path. Along the way, she?s earned several accolades and achievements. In particular, she was chosen as the Outstanding Mechanical Engineering Student at the UH Cullen College of Engineering for three consecutive years. She also participates in the Honors Engineering Program and Program for Mastery in Engineering Studies (PROMES).

Reed launched two writing-related community service programs while at UH. Each uses UH student volunteers to tutor Houston-area youngsters. She created Writing to Inspire Successful Education as part of the UH Bonner Leaders Program, and then ? in fall 2016 ? developed the Houston Scholars Writing Workshops to help 11th graders prepare their college essays.
Gaining a wide variety of experience is important, Reed said. "Trying out new things kind of gave birth to new passions that I didn't know I had, such as research," she said.

She worked as an Arizona State University Research Fellow during the summer of 2016 on a project that reported on the energy requirements of delamination of solar panels, the second step in the disposal and recycling process of photovoltaic waste. This experience spring-boarded her interest in academia.

That same year, Reed won the Houston Scholars Program's competitive independent research grant and used it to research making solar cell photovoltaics more affordable and efficient with a process known as thin film deposition using gallium arsenide instead of the traditional silicon.

In 2017, she attended a week-long Shell Drilling and Production Training Camp to better understand subsea wells, drilling, casing, production operations and well equipment. Reed also worked for LyondellBasell as a machinery reliability intern at their Channelview plant.

The Ford Fellowship, administered by the National Academies of Sciences, Engineering and Medicine, is her most recent achievement. It will provide three years of support for Reed.

"When people often talk about UH, they know that it's a good school but I don't think they necessarily understand that the resources we have here – undergraduate research, access to internships and mentoring – are really topnotch and that we're competitive on a national level," Reed said. "This [award] just proves that and so I'm happy with how it all turned out."

At Yale, Reed will be working in the laboratories of two mechanical engineering and materials science professors – with Judy Cha on research project involving 2-D layered nanochalcogenides and with Rebecca Kramer-Bottiglio on a soft robotics project.

She also plans to continue giving back and addressing community needs. "I'm trying to get a good feel for what service commitments are already active there, and where are the voids that I could possibly fill with my passion for community service," she said.

Other than that, she's keeping her options open and exploring new paths.

3 Tips for College from Serrae Reed

1. Building relationships is really important. It's important to go to class, but also to visit your professors during office hours, even if you don't have extremely important questions. These relationships can lead to partnerships for community service projects, potential research projects, and references down the line.

2. Make it a priority to get at least one research experience, one community service experience and one industry experience. That way, when you're in your senior year, you'll have plenty of material and experience to draw upon when it comes to interviews and applications, regardless of whether you want to go into academia or industry.

3. Apply for fellowships starting your sophomore year because you can win funding to study abroad, conduct research or start a project after your first year.