

News Release

Software Engineering, Computer Science, and what differentiates the two U of M degrees

By Ethan Christopherson on Tuesday, August 3, 2021

CROOKSTON, Minn. - To make a long story short, and easier to grasp, there is one significant difference that separates software engineering and computer science. A difference that lies within the occupation itself: software! When thinking of computer science, the main focus is the hardware of the computer. Things such as computing (obviously), analysis, data storage and applications, etc. However, software engineering contains more of the 'fine-tuning' aspects of computer science and technology. For instance, the internal programming and operating information known as software. As a software engineer, the goal is to design, maintain, test and produce the software that is used by computer scientists. To say the least, they are two sides of the same coin, one profession would be less useful without the other. Software engineers, such as those who attend University of Minnesota Crookston, use the analysis and outlines of computer scientists that allows them to develop seamless frameworks and software programs.

UMN Crookston's software engineering program opens up multiple exciting career paths such as engineering, application software development, data communications analyst, and many more. Offering students industry-leading software, some of the most advanced computer graphics on the market, and a degree that speaks for itself. "At larger colleges, you usually have to go to graduate assistants with questions or for tips. Here, I can absorb all the knowledge directly from my professors and that to me feels like a huge advantage," emphasized Vinayak Sharma, software engineering student and native from New Delhi, India.

With all technicalities out of the way, we can start discussing what extraordinary opportunities lie ahead for those considering software engineering (at U of M Crookston, of course).

First, it is one of the fastest growing industries in the world with a projected 30% increase in demand over the next ten years, to say the least, we're off to a hot start. In terms of size, U of M Crookston is considered a small campus, in terms of technology and intelligence, we are giants. "What we have at UMN Crookston is something we like to call the UCLEAR (Undergraduate Collaborative Learning and Experiential Applied Research) Lab, which houses our touch tables and various interactive screens for cutting-edge visualization experiences, said Josh Kauck, software engineering 2019 alum. Along with that is the I-SEE (Immersive Science and Experiential Engineering) Lab, which allows our students and faculty to immerse themselves in 3-D technologies.

"UMN Crookston not only lived up to my expectations, it exceeded them," shared Sharma.

Sharma said friends, faculty, and staff have supported his journey from day one. He remembers a class where they were learning "python", a software engineering language, and he found artificial intelligence to be the most interesting part of the class. Although it was not the main topic of the class, it was the one thing that ignited his curiosity the most, and his teacher nudged him to pursue his interest without hesitation.

"It's hard to find a place where faculty are so invested in their students and care deeply about what their passions are and what they want to learn more about," commented Sharma.

For more information on software engineering and some inspiring stories from past graduates, visit <https://www.crk.umn.edu/academics/math-science-and-technology-department/software-engineering>

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