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## Stanford parallel programming course available online for free

BY DAVID ORENSTEIN

Through a new course posted online for free, the [Stanford School of Engineering](#) and NVIDIA Corp. will give a big boost to programmers who want to take advantage of the substantial processing power of the graphics processing units used in today's consumer and professional graphics cards.

Beginning today, the school's [Stanford Center for Professional Development](#) will make recorded lectures of the computer science course [CS 193G: Programming Massively Parallel Processors with CUDA](#) available through [Stanford on iTunes U](#). A direct link to the course that includes slides and support materials can be found through [Stanford Engineering Everywhere](#), the school's free course website.

The 10-week course covers parallel programming in lectures and readings, but also with hands-on exercises and projects employing NVIDIA's CUDA architecture, which exposes the parallel processing hardware of graphics processing units (GPUs) to industry standard programming languages.

"Until recently, it was very difficult to write programs to harness the computational power of GPUs for anything other than drawing pictures," said Andrew Ng, associate professor of computer science. "CUDA has made it much easier to apply this hardware to other problems, and now GPUs are used for such applications as DNA sequencing, bioinformatics and even robotic control."

Because they have many processing cores that can carry out a large number of computations at the same time, GPUs can run many applications 10 to 100 times faster than traditional processing hardware, said Ng, who oversees the new course. The instructors are NVIDIA engineers Jared Hoberock and David Tarjan.

"The Stanford School of Engineering is pleased to add another complete course to its portfolio of free and easily accessed education offerings," said Andy DiPaolo, senior associate dean in the School of Engineering and executive director of the Stanford Center for Professional Development. "Starting a few years ago with courses available through Stanford Engineering Everywhere and followed by hundreds of hours of free programs including the popular iPhone programming course, we continue to make engineering education available anywhere, anytime and on-demand."

The course runs through June 1, when enrolled students will present their final projects. Lectures are posted for the general public about a week after they are delivered at Stanford and will remain available after the campus course has ended. People taking the course online cannot earn Stanford credit and should not expect that they will be able to interact with the instructors.

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- [CS 193G course website](#)
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