Schooled in the Discipline of Success

By Bob Gray

A sk Yan Ke ’89 PhD, co-founder, vice president, and chief architect of NetScreen Technologies, Inc., what the most important lesson was that he learned while at the Whiting School of Engineering, and the computer scientist replies, “discipline.”

Indeed, Ke learned this lesson well. He came to Baltimore after receiving his bachelor’s degree from Tsinghua University in his native Beijing, China. Four years later, he had earned a PhD in Computer Science and was one step closer to realizing his entrepreneurial dream of starting and building a company.

Ke “clearly wanted to do well,” recalls Professor Gerald Masson. Masson served as founding chair of the Whiting School’s Computer Science Department from 1986-2001 and is now director of the Johns Hopkins University Information Security Institute (ISI). Ke’s parents, who are electrical engineering professors in China, had contacted Masson about the possibility of their son becoming a graduate student in this new department. Now, when Masson meets Ke, he can still see Ke’s “attention to detail, the way that he can assimilate information and put it into context.”

While at Hopkins, Ke met his future wife, June Li ’91 PhD met Yan Ke ’89 PhD. They would wed later on. Before seeking venture capital, “In early 1997, two friends and I started brainstorming,” Ke continues. They were seeking ways to leverage their combined skills in engineering development, software design, and network integration. “Our idea was to embed dedicated software on a microchip,” Ke says. At the time, software was delivered primarily on disk or CD-ROM. Software instructions embedded on microchips meant “no moving parts, lower cost, ease of installation, improved performance,” he explains.

Network security was in its infancy. “We could see that secure Ethernet switching systems based on silicon technology would be a good thing,” Ke recalls.

Before seeking venture capital, the three friends pooled their own money to build a prototype. They worked on weekends while holding day jobs. Then, when it was ready, “we all quit,” Ke says. “Getting funding is a full-time job.”

In late 1997, an angel investor primed the pump with $1 million. Three months later, Sequoia Capital pumped in $3.5 million. “That pretty much kicked off the company,” says Ke. Within a year, NetScreen Technologies, Inc. employed 30 people.

Today, NetScreen is publicly traded, employs more than 800, and has offices in Sunnyvale, California; Hong Kong; and Fleet, England. In a world of heightened interest in information security, the company is well-positioned for success. Along with lucrative contracts have come recognition for Ke and co-founder Feng Deng. In 2002, they were awarded the prestigious Ernst & Young Northern California “Entrepreneur of the Year” award for technology.

Still, Ke admits, “running a company is never smooth sailing. You have to keep focused, always aiming toward your goal.” And this discipline, he says, he learned at Hopkins. “When I was doing my PhD, there were many occasions when I would spend weeks working a problem, feeling there was no solution. But eventually, I’d get it.”

Now, as Ke seeks ways to give back to Hopkins, it is hard to find the time. But even with his tight schedule and family responsibilities, Ke accepted an invitation from the ISI in October 2003 to conduct a seminar for students and faculty on network security, market technology, and trends.

The two alumni give back in other ways. Through the President’s Club and the Whiting School Legacy Circle, the couple helps to ensure that the opportunities afforded to them by Hopkins are available for rising generations of entrepreneurs. “I have always been grateful to Hopkins for admitting me as a foreign student,” he says. “Without that help, I never would have been able to achieve what I have today.”

Mastering the “Art” of Excellence

By Dave Beaudouin

I definitely have a lot of energy,” says Tara Johnson ’02, ’02 (Peabody) with a laugh. And it shows—at just 23, she has redefined the meaning of high performance. In just six years since beginning her academic career at the Johns Hopkins University, she has completed two undergraduate degrees with honors, won a major national scholarship, and is heading into her third year at the Johns Hopkins School of Medicine while serving on two high-level volunteer leadership groups for the Whiting School of Engineering.

Growing up in Kingsville, Maryland, Johnson admired her father, Carl Johnson, M.D., an orthopedic surgeon on the Hopkins medical faculty and clinical staff.
“I remember telling everyone as a little girl that I wanted to be a doctor like my dad,” she recalls.

At the same time, a parallel interest emerged in music. She began playing the piano by age 7, and the French horn, her favored instrument, at 10. By high school, the study of engineering had entered the picture. “I had all of these interests going on at the same time, and I wanted to pursue all of them in some way to make sure that I made the right final decision,” she says. “That is why I decided to pursue both biomedical engineering and music.”

Johnson readily admits that Hopkins was her first choice. “I put off my interviews at other schools until I had heard from Hopkins,” she says. “The University’s double-degree program was perfect for my needs.” Johnson’s two bachelor’s degrees—in Biomedical Engineering at the Whiting School and in Musical Performance at the Peabody Conservatory of Music—would seem ambitious in itself. Even so, she pushed herself to raise the bar, graduating from the five-year program in just four years with both general and departmental honors. “I doubled up on courses every semester, sometimes taking over 30 credits,” she remembers. “So I learned how to manage my time.” She graduated with twice as many credits as required.

Along the way, she was named to the Golden Key Honor Society, the Engineering Honor Society, and the Biomedical Engineering Honor Society. And she received the GE Faculty for the Future Fellowship and was a Maryland Distinguished Scholar and a Robert C. Byrd Scholar.

Johnson also volunteered as an academic tutor and advisor for the Child-Life Program at the Johns Hopkins Hospital. She performed with the Johns Hopkins University Band and the Choral Society. What’s more, she participated in several biomedical engineering research projects, most notably during her three-year stint with the Biomedical Engineering Design Team class. Artin Shoukas, the widely respected professor and researcher who helps teach the class, has nothing but praise for his former student. “She is a remarkable young woman,” says Shoukas. “When one of our Design Team leaders stepped down, she took over the team and did a superb job in leading them.” Johnson returns to the class on a regular basis to judge projects.

In her senior year, Johnson was named one of the first Jack Kent Cooke Foundation Graduate Scholars. Awarded annually by the Jack Kent Cooke Foundation to just 50 outstanding students nationally, the scholarship provides up to $50,000 annually for up to six years of graduate studies in any field. “I was so happy when I got it. I was just jumping up and down,” she says. “The scholarship gave me the financial support I needed to attend the Johns Hopkins School of Medicine.”

Medical school! Why not a career in engineering or music? Johnson considers her current pursuit to be a natural outgrowth of her undergraduate studies. “I had thought about careers in engineering and music, but I really enjoy interacting with other people—with patients—and being able to help them directly. For me, medicine can also be an art, because each patient is different. It’s just like engineering and music, because each discipline requires making creative solutions.”

While she has set her sights on becoming an orthopedic surgeon, Johnson is determined to remain active as an Engineering alumnus. She is a member of the Whiting School’s National Advisory Council and the Society of Engineering Alumni Council. “I want to stay involved with the School and make sure that it keeps doing well,” she says. “I have a great deal of loyalty for Hopkins.”