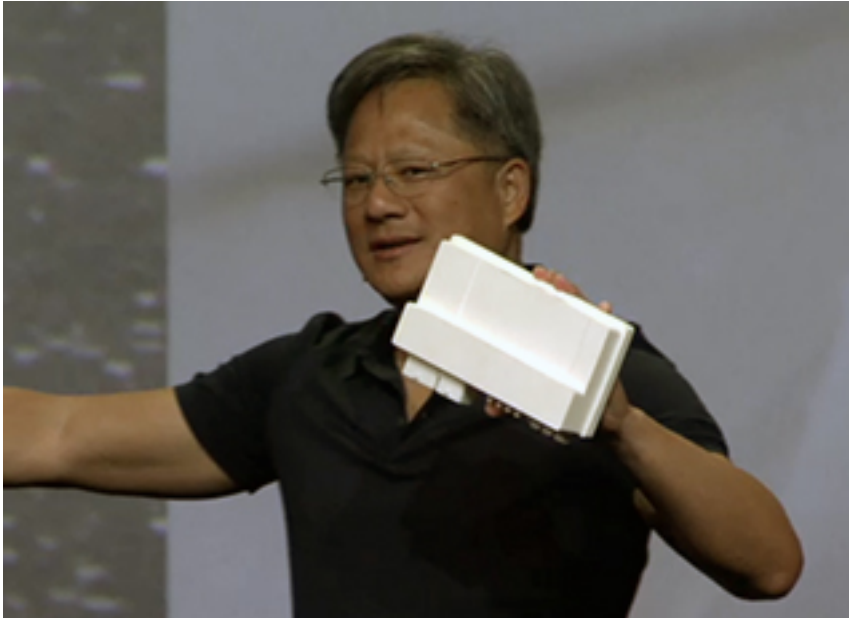


## **From Design to Embedded Systems, NVIDIA moves into the Auto Industry**

Rob Farber



NVIDIA's CEO Jen Hsun, along with Audi's head of pre-development Andreas Reich [demonstrated a prototype Audi self-driving car](#) [1] based on the new NVIDIA K1 System On a Chip (SoC) during the GTC 2014 keynote in San Jose. "Tegra K1 is the brain of your future self-driven car." Jen Hsun claims.

The demonstration follows a continued move by NVIDIA into the automotive space from embedded systems to automotive design, as exemplified by the previous year's GTC 2013 keynote featuring Ralph Gilles of Chrysler and the [GTC 2014 Keynote](#) [2] with Honda executive, Ide-san showing the NVIDIA Iray Scalable Rendering Appliance.

It was interesting seeing an empty car driving itself onto the stage, "Ghostly" is how Jen Hsun described the sensation. Being close to the stage, my first thought was for my personal safety followed by the realization that Jen Hsun was so confident in the technology that he was willing to put his body on the line as he and Andreas Reich were directly in front of the moving vehicle. I could not help but note — as did Jen Hsun — that both he and Andreas stepped back when the self-driving car moved onto the stage, but an NVIDIA spokesperson later noted that while the stage at the convention center is large, it is still cramped when sharing space with a moving passenger car.

The module that drove the car is the size of a small tablet computer albeit thicker.

Dustin Hoffman from GE Intelligent Platforms demonstrated a ruggedized version for military and high vibration environments like race cars in the GE booth. His talk, "[Embedding CUDA](#) [3]" provides more information about the potential of this 5 watt

TDP Soc.

[GE Works with NVIDIA on Tegra K1-based, High Performance Embedded Computing Solution](#) [4]

*Agreement enables GE to bring leading-edge graphics, high-performance embedded computing to new power-constrained applications • NVIDIA Tegra K1 mobile processor's power efficiency enables customers to deploy data-intensive applications across a wider range of platforms • Allows GE to respond to growing demand for SWaP-constrained solutions*

For more information about the application of the NVIDIA K1 in the GTC 2014 presentation: "Tegra K1 and the Automotive Industry" [[pdf](#) [5]][[video](#) [6]] by Gernot Ziegler and Timo Stich.

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## Links:

[1] <http://youtu.be/wNSWWO6-Hw?t=4m30s>

[2] <http://youtu.be/4BeqGY2Rwcl?t=7m21s>

[3] <http://on-demand.gputechconf.com/gtc/2014/video/S4675-embedding-cuda-rdma.mp4>

[4] <http://defense.ge-ip.com/news/ge-works-with-nvidia-on-tegra-k1-based-high-performance-embedded-computing-solution/n3093>

[5] <http://on-demand.gputechconf.com/gtc/2014/presentations/S4412-tegra-k1-automotive-industry.pdf>

[6] <http://on-demand.gputechconf.com/gtc/2014/video/S4412-tegra-k1-automotive-industry.mp4>

[7] <mailto:editor@ScientificComputing.com>