George Hotz – An Influential software engineer

"I just want to know how it all works"

Introduction

George Hotz is a hacker, software engineer and entrepreneur. Born on the 2nd of October 1989, in New Jersey, he became a household name for his activities in the hacking community under the alias GeoHot. At the age of 17 Hotz became the first person to jailbreak the first-generation iPhone. From there he released many other exploits, most controversially his work on reverse engineering the PS3.

Since his hacking days Hotz founded his own company "Comma" which is developing automated vehicle driving systems at an affordable price.

I have chosen Hotz as he is an inspiration to my own learning, is a major contributor to the open source coding community and is never shy to share his knowledge or thoughts.

Early Life and Education

Hotz has always been a high achiever, he attended Bergen County Academies (BCA), which is a public high school in New Jersey. Founded in 1991 BCA is known to be one of the highest performing schools in the US. To be admitted attendance, students must complete an entrance exam, submit transcripts, letters of recommendation and more. Out of the students who apply, on average only 15-19% are selected[1]. This is a prestigious school and acts as an indicator of Hotz's high intelligence.

From as early as 14, Hotz competed in coding and hacking competitions. Some of his early projects include a robot that can scan a room and calculate its dimensions[2], or holographic like displays that projects 3D Images. These competitions served as an escape from the normal subjects taught in school and allowed him to develop his skills at programming.

Hotz briefly attended Rocester Institute of Technology and then Carnegie Mellon University where he graduated with a Bachelor of Science. Through-out his time in college, Hotz was heavily involved with competition programming and spent his spare time working on his own personal programming projects.

[1] https://en.wikipedia.org/wiki/Bergen_County_Academies
[2] https://www.intel.com/pressroom/archive/photos/isef_2005_photos.htm

Early Career

Hotz's first major publicity came when at the age of 17, he became the first reported person to carrier-unlock the first-generation iPhone. When released, the iPhone was intended to be carrier locked to the AT&T network for the first 2 years. Seeing this as a challenge Hotz set about removing this carrier lock. He attributed his motivation to just wanting to "Crack open" the security of this new device, but also the fact that his parents had a T-mobile family plan and had no intention of changing carrier. His exploit was both hardware and software based, displaying his knowledge in both fields.

Another of Hotz's headlining exploits was that of Sony's Playstation 3. Hotz was able to get access to the machine at a hypervisor level, meaning he could potentially run his own code and software on the console. After making his discoveries he published details of the exploit to the public via his website. This started a back and forth battle between Hotz and Sony, eventually resulting in Sony filing a lawsuit against Hotz for the publication of the PS3 root keys. The lawsuit was settled with the condition that Hotz would not do any hacking work on Sony products in the future[3]. In response to the controversy, Hotz wrote a song that mocks Sony, which can be found on his personal website geohot.com, showing his playful, carefree and often disrespectful personality had not changed due to the situation. Even the lawsuit could not dampen his ambitions and passion for programming. This can be summed up by his statements to the New Yorker "I live by morals, I don't live by laws"[4], showing that the Sony debacle has left him undeterred from perusing more related challenges in the future, regardless of the implications.

[3] https://blog.us.playstation.com/2011/04/11/settlement-in-george-hotz-case/
[4] https://www.bloomberg.com/features/2015-george-hotz-self-driving-car/

Employment and Entrepreneurship

Apart from his personal projects and income obtained from programming competitions, Hotz has moved around through several different employers. He jumped from place to place landing internships at Google, SpaceX and Facebook as indicated on his LinkedIn profile[5]. This experience left him taken aback. He was shocked and disagreed with the ethical implications of how these these companies use machine learning techniques to keep people using their services for longer. He was also disappointed by the mundane work assigned to highly intelligent engineers, such as fixing website UI bugs.

After being left unsatisfied by the internships and bored of competitions, Hotz began to dive headfirst into A.I. in Carnegie Mellon University. After gaining some knowledge in the area through his studies, he took a job at an A.I. start up called Vicarious. He used this as a platform to gain some industry experience. He later quit his role and began to question the so-called industry leaders in A.I. technology, as he felt he had learned all there is to know for the area. “For the first time in my life, I’m like, ‘I know everything there is to know.”[1] Hotz used his connections to meet with Elon Musk, the co-founder and CEO of Tesla. Tesla is an electric vehicle company that are developing self-driving A.I. technology. The two discussed A.I. and the conversation later progressed to somewhat of a challenge for Hotz. If he could beat the current technology (Mobileye) that Tesla used in their vehicles, Musk was prepared to offer Hotz a substantial contract. Though Hotz turned down the offer, he still intends on surpassing the Mobileye technology.

On the back of his studies and first-hand experience, Hotz founded his own start-up, Comma.ai in September 2015[6]. With goal of Comma being largely to provide an affordable self-driving solution to the masses. Comma can equip existing cars with a kit of sensors and hardware for a minimal cost and are pushing the boundaries of A.I. and self-driving car technology on a budget. He now employs a small team of developers and is constantly posting video progress of the technology he is developing on social media platforms.

[5] https://www.linkedin.com/in/george-hotz-b3866476/
[6] https://comma.ai/

Summary

Even though Hotz has had major success with his personal projects and business ventures, he continues to contribute to the open source and knowledge communities. These contributions are evident from his online publications, regular addresses to people at events and a plentiful GitHub page[7]. He regularly attempts coding and hacking problems live on camera, giving his avid watchers some key insights on his approaches and methodologies for tackling problems. His passion for technology and programming is contagious, when interviewed he is massively motivated and energetic, excited to discuss projects he is working on.

He paints an inspirational picture to aspiring software engineers, showing that with determination and hard work, you can leap from dismantling, and reverse engineering domestic technology to starting your own successful business. He remains somewhat humble, never actively working for financial gain, but rather striving to inspire and gain recognition. He has inspired my learning and acts as a constant reminder that your ambitions are very tangible, and that “Curiosity” is a powerful tool.

[7] https://github.com/geohot

References

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