Kevin McCurley - [Kevin, McCurley, 30, 235, 1979, 2006, 2, 3, 0]

Kevin Snow McCurley is a man of many talents. He has done it all. Not only is he a mathematician, computer scientist, and a cryptographer, but he is also a former research scientist at Google. I was fortunate enough to have been able to interview him, and in this paper I will try to paint a picture of Kevin McCurley's life through my words.

Born in 1954 in California, Kevin McCurley was quite confused on what he wanted to pursue in life. Many children have some desire to pursue a profession, but when asked when he was a child what he wanted to be when he grew up, he told me that he didn't have any idea. As a child, he was more interested in building model planes and cars, and was more hands-on in his learning style. Unlike a lot of brilliant mathematicians who developed a love for Math at an early age, the first time he was actually interested in math was during high school. He attended high school in San Jose, California. His love for math, which developed in high school, was fueled by one of his favorite high school teachers, Judy Jones. Judy encouraged Kevin to attend and compete in many mathematics contests and showed him how math was fun and interesting.

After high school, Kevin attended Santa Clara University. There he met Professor Jerry Anderson, who was a former president of the MAA, and also Kevin's calculus and abstract algebra teacher. Unfortunately Professor Anderson passed away on September 19, 2019 after having a very long career as a professor in mathematics. While in college, Professor Anderson inspired and taught Kevin many things. He told him interesting stories and related mathematics to history. This is what fueled Kevin's desire to pursue a career in mathematics.

A career in mathematics was not the only thing that interested Kevin McCurley. Since he went to a high school in Silicon Valley, he was also interested in Computer Science. During his undergrad, he also took many classes in Computer Science in the Computer Engineering department. This is when he started to appreciate the craftsmanship that he found in programming. But at this point, he merely thought of Computer Science as a side hobby, not really something that he wished to pursue. It was not until he did his Ph.D at University of Illinois at Urbana-Champaign that he really started to love Computer Science.

University of Illinois at Urbana-Champaign was also where he received his master's in statistics. He did his Ph.D there in 1981 in Analytic Number Theory, which obviously requires a lot of experimental work with computers, and this is what sparked him to move towards computer science. His dissertation was titled, "Explicit Estimates for Functions of Primes in Arithmetic Progressions," where part of his work was on calculations involving zeros of L functions.

In traditional Kevin's fashion, he couldn't stick to one thing. His love then moved onto cryptography which is a very natural transition from number theory. After his postdoc at Michigan State, he took a job at USC in Los Angeles, where he started working with Len Adleman, famously known for being the "A" in RSA. Aldeman wanted to learn more about number theory as well, so it worked out best for the both of them, and they both started writing papers together. This was his major field of research up until the 90s. After a brief time working on parallel algorithms, he became more interested in things related to the world wide web, and so he started working on information retrieval, colloquially known as searching. Although he loved algorithms and complexity in number theory with Len Adleman, it became clear to him that his future happiness was going to be in computer science rather than math.

In 2005, Kevin went on to work at Google. He ended up there as a result of being in Silicon Valley, the heart of tech, and realizing that it would make sense to move to Google if he wanted to continue working on search problems. Before working at Google he was a former president of the International Association for Cryptologic Research, and he was also chosen as an IACR Fellow in 2005.

He describes this term called the "seven-year itch", which is often applied to relationships, but he applies it to his job. He believes that after seven years, people tend to stagnate a little bit, and in order to keep advancing and learning new things, it's good to go someplace else to have a new set of colleagues, and a new set of problems thrown at you. That reasoning is what prompted him to move to Google after working at IBM for almost 8 years.

Kevin worked at Google Research from 2005 to 2009, and afterwards eventually shifted again to work on economics and natural language processing. He was always restless to do something with greater social impact, and he never regarded his research topics as a lifelong obsession. He was more interested in finding something that was changing the world,a dn trying to work on that.

Now he works on other projects. His main other project is highly software related. He made an observation that the Web changed people's relationships to information by making it universally accessible. We see in our current world that, at a moment's notice, we can find information about people's health, who they're dating, their political beliefs, what they like, and much more. Since phones are taking over the role computers play, he believes that it will change people's relationship to information again. That when people carry information with them on their phone, it changes your relationship with it. His other project is related to this topic. He's currently working on Android.

Kevin's life is quite an eventful one. Unlike many others, Srinivasa Ramanujan didn't really leave that much of an impression on him. He says that Ramanujan seemed to be mostly

interested in formulas than theory building or problem solving. He does respect his discoveries but they weren't really the kind that interested him much. When asked about the centennial conference celebrating Ramanujan's 100th birthday, he admits that he doesn't remember much of it as he has attended hundreds of conferences. He recalls that the conference was organized by Bruce Berndt, who had devoted much of his career to studying the work of Ramanujan. He also recalls George Andrews and Freeman Dyson speaking at the conference, but he says he may have mistaken them for another conference he attended in Urbana.

Instead of others who have a deep love of math, Kevin has a deep love for computer science and its relation to math. I related to Kevin as well since I am also pursuing Computer Science and Math, so looking at Kevin's life was an inspiration to me. He does a lot of coding as a hobby outside his work. When asked if he likes sports, he responded saying that he despises them. He believes we humans are far too obsessed with them. Instead he was more interested in exploring the outdoors, and once ran into Steve Smale on a trial in Zion National Park. As a child his parents moved all over the United States. By the age 12 he got a chance to live in 5 states, and he recalls fond memories of camping in remote places with his loving parents. Unfortunately his parents died in the 80s and neither of them had a college education, but they would be proud of what Kevin has achieved in his life.