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## Back to the Future in Silicon Valley

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Silicon Valley came by its name honestly enough: way back in the 60s, 70s and 80s, it was the place where venture capitalists and entrepreneurs turned silicon into computer chips in high volumes and at low prices that astonished the world. I have a chart on my office wall that shows how hundreds of silicon-based chip companies emerged in the Valley in that period, the vast majority of which could be traced to Shockley Semiconductor Laboratory (founded 1956), and Fairchild not long thereafter – the later spawned so many later chip companies that it fairly earned the moniker “Fairchild University.”

The Big Kahuna of the silicon companies in Silicon Valley was and is, of course, Intel. The company’s x86 chip architecture, launched in 1978, powered the PC revolution and remains to this day by far the dominant architecture in personal computers, laptops, workstations, and even the cloud computing business. It’s even a big player in the supercomputer segment. Name a big chip company and chances are good a big part of its business is x86-based chips. Much the same as the IBM System/360 architecture has dominated the mainframe business since the 1960s. Yes, there is still a market, albeit not so big as it used to be, for mainframes.

The x86 architecture has been so dominant for so long that for maybe the last two decades or so, the venture capital business – a business that owes its current form largely to its role financing all those chip companies way back when – has pretty much stopped funding chip startups. Until recently, that is.

I was doing a bit of research on the current AI revolution (there have been others: folks of a certain age will remember the “expert systems” AI hype in the late 80s) when I found something pretty interesting – well, to me, at least. Over the last couple of years, VCs have invested hundreds of millions of dollars in more than 20 new chip companies. All of which seem to have one thing in common: they are developing chips optimized for AI applications. Chips with non-x86 architectures.

I said I found this interesting. That's because it suggests to me that while lots of folks are talking about how various tech-enabled and tech-driven revolutions are on the cusp of changing the world for people who use technology, and how to frame that as an investment opportunity, far fewer folks are talking about how those revolutions might change the world for today's biggest producers of technology, and how to frame that as an investment opportunity. So, for example, while there are plenty of people talking about how AI might disrupt the smartphone business and the personal transportation space, not so many are talking about how AI might disrupt the businesses that provide the components that power those businesses. Who, that is, will be the next "Intel Inside."

I'm betting it won't be Intel – for the same reason IBM didn't follow its System/360 mainframe architecture with something like an x86 architecture of its own. When you are king of a big mountain, and Intel's is still sitting at the top of a pretty big one, you tend to think more about defense than offense. Protecting your realm, not cannibalizing it. Just ask Kodak – the folks who invented digital photography.

So here is an investment hypothesis: Assuming (and this is a big assumption) that today's AI revolution will be even nearly as big as the hype suggests, I'll bet when the dust settles there is a new sheriff in the silicon part of Silicon Valley. Though if you look at where those chip-hungry VC investors have been spending their money, it just might be an out-of-towner.

## **Related People**

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