|  |  |  |  |
| --- | --- | --- | --- |
| 1 | 00:00:00,048 --> 00:00:00,840 | 大家好 |  |
| 2 | 00:00:00,956 --> 00:00:02,783 | 非常高兴今天能够有这样一个机会 |  |
| 3 | 00:00:02,783 --> 00:00:04,302 | 做这样一个分享 |  |
| 4 | 00:00:04,794 --> 00:00:08,071 | 在这样的一个盛大的会议 |  |
| 5 | 00:00:08,178 --> 00:00:08,960 | 做这样一个分享 |  |
| 6 | 00:00:09,018 --> 00:00:10,460 | 其实我还是非常紧张的 |  |
| 7 | 00:00:10,871 --> 00:00:13,340 | 主办方强烈要求 |  |
| 8 | 00:00:13,587 --> 00:00:16,955 | 我能够讲一些更加真实的故事 |  |
| 9 | 00:00:16,995 --> 00:00:19,515 | 因为在过去的若干年里面 |  |
| 10 | 00:00:19,516 --> 00:00:21,795 | 我也做过很多次公开的演讲 |  |
| 11 | 00:00:22,150 --> 00:00:24,115 | 过去我也讲过很多这种 |  |
| 12 | 00:00:24,275 --> 00:00:26,515 | 主要是讲一些比较大的方面 |  |
| 13 | 00:00:26,555 --> 00:00:28,675 | 比如说一些趋势 意义 |  |
| 14 | 00:00:28,850 --> 00:00:30,625 | 这次主办方强烈要求我 |  |
| 15 | 00:00:30,625 --> 00:00:31,965 | 能够分享一些 |  |
| 16 | 00:00:32,018 --> 00:00:33,600 | 更多接地气的 |  |
| 17 | 00:00:33,600 --> 00:00:37,273 | 关于我们中国生根发芽的故事 |  |
| 18 | 00:00:37,521 --> 00:00:40,900 | 所以我觉得这也是个不错的机会 |  |
| 19 | 00:00:41,080 --> 00:00:43,460 | 并且今天对于我们芯来科技 |  |
| 20 | 00:00:43,461 --> 00:00:44,280 | 在座的可能 |  |
| 21 | 00:00:44,481 --> 00:00:46,340 | 我相信有的人了解我们芯来科技 |  |
| 22 | 00:00:46,341 --> 00:00:48,500 | 有的人可能还不是特别了解我们芯来科技 |  |
| 23 | 00:00:48,815 --> 00:00:49,796 | 对于我们芯来科技而言 |  |
| 24 | 00:00:49,796 --> 00:00:51,362 | 也是一个意义非常 |  |
| 25 | 00:00:51,541 --> 00:00:52,872 | 非同凡响的日子 |  |
| 26 | 00:00:53,055 --> 00:00:55,265 | 因为这个也是无巧不成书 |  |
| 27 | 00:00:55,296 --> 00:00:57,175 | 今天也正好是我们芯来科技 |  |
| 28 | 00:00:57,175 --> 00:01:00,458 | 三周年的日子 |  |
| 29 | 00:01:00,500 --> 00:01:03,175 | 从2018年的6月22号到今天 |  |
| 30 | 00:01:03,176 --> 00:01:04,829 | 刚好是三年 |  |
| 31 | 00:01:04,829 --> 00:01:06,350 | 逝者如斯夫 |  |
| 32 | 00:01:06,575 --> 00:01:07,774 | 过去的三年里面 |  |
| 33 | 00:01:07,774 --> 00:01:09,315 | 其实过得非常的快 |  |
| 34 | 00:01:09,384 --> 00:01:11,675 | 也让我作为芯来科技的创始人 |  |
| 35 | 00:01:12,055 --> 00:01:13,435 | 有非常多的感慨 |  |
| 36 | 00:01:13,805 --> 00:01:14,735 | 所以今天 |  |
| 37 | 00:01:14,765 --> 00:01:17,109 | 我借这个机会来更多的 |  |
| 38 | 00:01:17,109 --> 00:01:18,375 | 希望跟大家分享 |  |
| 39 | 00:01:18,376 --> 00:01:21,455 | 我们作为一个中国本土的创业公司 |  |
| 40 | 00:01:21,456 --> 00:01:23,608 | 作为一个RISC-V的中国芯 |  |
| 41 | 00:01:23,755 --> 00:01:26,255 | 我们在本土生根发芽的故事 |  |
| 42 | 00:01:26,455 --> 00:01:28,435 | 也是一个比较真实的故事 |  |
| 43 | 00:01:30,178 --> 00:01:33,730 | 我会从三个维度来给大家分享这一段历程 |  |
| 44 | 00:01:33,956 --> 00:01:37,271 | 我们说叫彼三年 此三年和再三年 |  |
| 45 | 00:01:37,368 --> 00:01:38,385 | 那么首先 |  |
| 46 | 00:01:38,639 --> 00:01:41,840 | 彼三年意思是说我们芯来科技 |  |
| 47 | 00:01:41,840 --> 00:01:45,804 | 在正式成立之前的三年发生了什么 |  |
| 48 | 00:01:46,187 --> 00:01:47,709 | 那么在这个过程中 |  |
| 49 | 00:01:47,709 --> 00:01:50,812 | 我用一首唐诗的第一句话 |  |
| 50 | 00:01:50,812 --> 00:01:52,529 | 来形容开始 |  |
| 51 | 00:01:52,760 --> 00:01:56,000 | 叫做好雨知时节 当春乃发生 |  |
| 52 | 00:01:56,512 --> 00:01:58,280 | 时间回到2015年 |  |
| 53 | 00:01:58,340 --> 00:02:00,800 | 那时候可能还是在六年前 |  |
| 54 | 00:02:01,231 --> 00:02:04,056 | 那时候我还是一位普通的 |  |
| 55 | 00:02:04,284 --> 00:02:08,812 | 专注于技术的研发和管理人员 |  |
| 56 | 00:02:08,906 --> 00:02:12,045 | 我相继的在马威尔斯拉夫斯做过 |  |
| 57 | 00:02:12,165 --> 00:02:15,355 | 高性能的CPU芯片产品的开发 |  |
| 58 | 00:02:15,356 --> 00:02:16,675 | 也在SYNOPSYS做过 |  |
| 59 | 00:02:16,840 --> 00:02:19,801 | 很多不同系列的CPU IP的产品的开发 |  |
| 60 | 00:02:20,284 --> 00:02:21,655 | 在这个过程中 |  |
| 61 | 00:02:21,715 --> 00:02:25,035 | 除了积累了很多这种技术上的心得之外 |  |
| 62 | 00:02:25,253 --> 00:02:27,033 | 一个最大的心得就是 |  |
| 63 | 00:02:27,545 --> 00:02:29,028 | 我发现CPU的问题 |  |
| 64 | 00:02:29,028 --> 00:02:30,985 | 并不是一个技术的问题 |  |
| 65 | 00:02:31,265 --> 00:02:33,445 | CPU的技术问题其实已经非常 |  |
| 66 | 00:02:33,545 --> 00:02:35,471 | 公开化和工程化了 |  |
| 67 | 00:02:35,840 --> 00:02:38,025 | CPU最大的问题 |  |
| 68 | 00:02:38,025 --> 00:02:39,870 | 其实是一个生态的问题 |  |
| 69 | 00:02:39,871 --> 00:02:41,910 | 因为技术的问题还得通过追赶 |  |
| 70 | 00:02:42,202 --> 00:02:43,670 | 和通过努力去弥补 |  |
| 71 | 00:02:43,730 --> 00:02:46,570 | 而生态的问题是一个很大的问题 |  |
| 72 | 00:02:46,984 --> 00:02:48,885 | 在那个时候 |  |
| 73 | 00:02:48,925 --> 00:02:50,125 | 在2015年的时候就已经 |  |
| 74 | 00:02:50,126 --> 00:02:51,545 | 基本上形成这样的格局 |  |
| 75 | 00:02:51,546 --> 00:02:53,745 | 在X86 ARM这样的架构 |  |
| 76 | 00:02:54,045 --> 00:02:57,025 | 这样的一种绝对垄断的情况下 |  |
| 77 | 00:02:57,105 --> 00:03:00,065 | 整个行业基本上处于一种万马齐喑的状态 |  |
| 78 | 00:03:00,265 --> 00:03:03,320 | 也就是说是处于一种绝对封闭的状态 |  |
| 79 | 00:03:03,656 --> 00:03:05,339 | 所以基本上只能发出 |  |
| 80 | 00:03:05,339 --> 00:03:06,660 | 王师北定中原日 |  |
| 81 | 00:03:06,661 --> 00:03:07,798 | 家祭无忘告乃翁 |  |
| 82 | 00:03:07,798 --> 00:03:08,400 | 这样的哀叹 |  |
| 83 | 00:03:08,720 --> 00:03:11,303 | 这个行业其实已经基本上走入了 一个 |  |
| 84 | 00:03:11,550 --> 00:03:15,740 | 可以说是走入了一个绝境 |  |
| 85 | 00:03:16,134 --> 00:03:20,400 | 直到在一次偶然的这样的场合里面 |  |
| 86 | 00:03:20,401 --> 00:03:21,753 | 突然接触到RISC-V |  |
| 87 | 00:03:22,060 --> 00:03:23,062 | 这个其实 |  |
| 88 | 00:03:23,600 --> 00:03:26,500 | 是一个对我来说作为一个行业从业者而言 |  |
| 89 | 00:03:26,760 --> 00:03:28,680 | 基本上对我来说是非常大的震撼 |  |
| 90 | 00:03:28,681 --> 00:03:29,921 | 就是基本上重燃了 |  |
| 91 | 00:03:29,921 --> 00:03:31,740 | 我对这个行业的希望 |  |
| 92 | 00:03:31,880 --> 00:03:35,180 | 因为当我第一次接触到RISC-V的理念的时候 |  |
| 93 | 00:03:35,181 --> 00:03:38,200 | 我其实就深深地被它的这个理念所折服 |  |
| 94 | 00:03:38,428 --> 00:03:40,520 | 2015二零一五年的时候 |  |
| 95 | 00:03:40,521 --> 00:03:41,980 | 在第一次接触RISC-V的时候 |  |
| 96 | 00:03:41,981 --> 00:03:46,200 | 我就认识到它的一个对于我们本土 |  |
| 97 | 00:03:46,201 --> 00:03:48,980 | 对全世界而言都是一次难得的历史机遇 |  |
| 98 | 00:03:50,547 --> 00:03:51,715 | 为什么这么说呢 |  |
| 99 | 00:03:51,715 --> 00:03:53,947 | 因为从封闭走向开放 标准 |  |
| 100 | 00:03:53,947 --> 00:03:55,940 | 本身就是时代发展的一个必然 |  |
| 101 | 00:03:56,240 --> 00:03:58,460 | 并且刚好RISC-V诞生 |  |
| 102 | 00:03:58,560 --> 00:04:01,143 | 契合了我们现在说AIoT时代的 |  |
| 103 | 00:04:01,143 --> 00:04:03,080 | 一个应用定义芯片的趋势 |  |
| 104 | 00:04:03,559 --> 00:04:05,106 | 这个趋势是什么样子 |  |
| 105 | 00:04:05,170 --> 00:04:07,190 | 大家应该可以很明显的发现 |  |
| 106 | 00:04:07,837 --> 00:04:09,950 | 上层应用是在多元化和碎片化 |  |
| 107 | 00:04:10,290 --> 00:04:12,870 | 但是底层技术其实是在标准化 |  |
| 108 | 00:04:13,309 --> 00:04:17,080 | RISC-V将CPU这个指令集架构的标准 |  |
| 109 | 00:04:17,460 --> 00:04:18,280 | 成为标准之后 |  |
| 110 | 00:04:18,281 --> 00:04:19,838 | 也基本上宣告了我们现在 |  |
| 111 | 00:04:19,838 --> 00:04:22,140 | 在SoC 的整个的技术图谱里面 |  |
| 112 | 00:04:22,559 --> 00:04:24,413 | 从计算到接口 到无线 |  |
| 113 | 00:04:24,490 --> 00:04:26,700 | 都已经是全部开放标准化 |  |
| 114 | 00:04:26,868 --> 00:04:28,850 | 这其实 很好的解决了 |  |
| 115 | 00:04:28,850 --> 00:04:31,050 | 一个生态的大前提的问题 |  |
| 116 | 00:04:31,234 --> 00:04:31,894 | 我说过 |  |
| 117 | 00:04:31,970 --> 00:04:34,490 | 技术的问题是可以通过时间和努力弥补的 |  |
| 118 | 00:04:34,759 --> 00:04:35,796 | 而生态的问题 |  |
| 119 | 00:04:36,002 --> 00:04:37,930 | 其实需要一些更大的 |  |
| 120 | 00:04:37,931 --> 00:04:40,250 | 宏观上的一些趋势 |  |
| 121 | 00:04:40,643 --> 00:04:43,275 | 同时RISC-V这样一个公开的标准 |  |
| 122 | 00:04:43,535 --> 00:04:45,395 | 其实也很好地调和了我们 |  |
| 123 | 00:04:45,534 --> 00:04:48,755 | 本土的作为国产CPU主要面临的困局 |  |
| 124 | 00:04:48,815 --> 00:04:50,735 | 就是很好的调和了生态普适性 |  |
| 125 | 00:04:50,925 --> 00:04:53,355 | 和国产自主可控的一个宏观的需求 |  |
| 126 | 00:04:53,646 --> 00:04:56,460 | 在过去这两者是一个天然的矛盾 |  |
| 127 | 00:04:56,686 --> 00:04:58,495 | 我们都知道国内的CPU产业 |  |
| 128 | 00:04:58,496 --> 00:05:00,252 | 其实经过了很长时间的摸索 |  |
| 129 | 00:05:00,252 --> 00:05:01,674 | 在过去 一直是天然的矛盾 |  |
| 130 | 00:05:01,828 --> 00:05:03,035 | RISC-V的出现 |  |
| 131 | 00:05:03,075 --> 00:05:03,931 | 其实很好的调和了 |  |
| 132 | 00:05:03,931 --> 00:05:05,115 | 这样一个宏观的需求 |  |
| 133 | 00:05:06,256 --> 00:05:07,560 | 在2015年的时候 |  |
| 134 | 00:05:07,561 --> 00:05:11,280 | 我就坚定的确定了我这个观点 |  |
| 135 | 00:05:12,184 --> 00:05:14,620 | 所以我采取了一些行动 |  |
| 136 | 00:05:14,856 --> 00:05:17,820 | 我用唐诗第二句话来形容写作 |  |
| 137 | 00:05:18,105 --> 00:05:20,600 | 叫随风潜入夜 润物细无声 |  |
| 138 | 00:05:21,009 --> 00:05:22,172 | 我作为个人 |  |
| 139 | 00:05:22,310 --> 00:05:24,450 | 其实采取了很多的行动 |  |
| 140 | 00:05:25,181 --> 00:05:28,620 | 我参加了一系列的RISC-V的线下的活动 |  |
| 141 | 00:05:28,760 --> 00:05:31,380 | 在第五页面的时候就做过了很多 |  |
| 142 | 00:05:31,421 --> 00:05:34,056 | 这是与【】教授的合影 |  |
| 143 | 00:05:34,153 --> 00:05:35,410 | 当时在中国这样的合影 |  |
| 144 | 00:05:35,775 --> 00:05:38,562 | 但是在参与到RISC-V的 |  |
| 145 | 00:05:39,265 --> 00:05:40,890 | 这个一系列的活动中 |  |
| 146 | 00:05:40,891 --> 00:05:43,010 | 其实我也发现了它的痛点 |  |
| 147 | 00:05:43,375 --> 00:05:45,370 | 也感受到了一些切肤之痛 |  |
| 148 | 00:05:45,510 --> 00:05:47,930 | 尤其是在国内【】的切肤之痛 |  |
| 149 | 00:05:48,287 --> 00:05:51,810 | 国内其实我们没有本土的开源核 |  |
| 150 | 00:05:51,811 --> 00:05:53,550 | 咱们中国人享有 |  |
| 151 | 00:05:53,551 --> 00:05:55,130 | 只下载不上传的盛誉 |  |
| 152 | 00:05:55,490 --> 00:05:57,914 | 所以国内没有开源核 |  |
| 153 | 00:05:58,334 --> 00:05:59,671 | 另外在当时 |  |
| 154 | 00:05:59,993 --> 00:06:02,095 | 基本上国内也没有中文资料 |  |
| 155 | 00:06:02,734 --> 00:06:05,735 | 作为一个计算机底层技术是非常晦涩的 |  |
| 156 | 00:06:05,736 --> 00:06:08,250 | 其实一般不是从业者是很难理解 |  |
| 157 | 00:06:08,284 --> 00:06:09,290 | 这一块的 |  |
| 158 | 00:06:09,290 --> 00:06:12,539 | 并且在当时比较流行的 |  |
| 159 | 00:06:13,150 --> 00:06:15,270 | 开源的版本Chisel的开源版本其实 |  |
| 160 | 00:06:15,310 --> 00:06:16,625 | 对国内的开发人员 |  |
| 161 | 00:06:16,625 --> 00:06:18,550 | 其实是有很大的难度 |  |
| 162 | 00:06:18,846 --> 00:06:20,803 | 因为编译非常复杂 |  |
| 163 | 00:06:20,920 --> 00:06:22,123 | 依赖包也非常的大 |  |
| 164 | 00:06:22,410 --> 00:06:23,585 | 下载也非常慢 |  |
| 165 | 00:06:23,585 --> 00:06:25,190 | 学习曲线非常陡峭 |  |
| 166 | 00:06:25,191 --> 00:06:27,048 | 代码生成出来也不可读 |  |
| 167 | 00:06:27,178 --> 00:06:30,456 | 所以很难走向主流的业内和普罗大众 |  |
| 168 | 00:06:30,853 --> 00:06:32,225 | 所以面对这样的一个痛点 |  |
| 169 | 00:06:32,227 --> 00:06:34,866 | 我觉得对国内的RISC-V推广 |  |
| 170 | 00:06:34,866 --> 00:06:36,965 | 其实有非常大的阻力 |  |
| 171 | 00:06:37,153 --> 00:06:38,765 | 所以我又采取一些行动 |  |
| 172 | 00:06:38,925 --> 00:06:41,585 | 那我说那我就自己做一个吧 |  |
| 173 | 00:06:41,585 --> 00:06:42,020 | 于是乎 |  |
| 174 | 00:06:42,140 --> 00:06:43,400 | 我就利用很多的时间 |  |
| 175 | 00:06:43,401 --> 00:06:45,560 | 自己做了一个开源的 |  |
| 176 | 00:06:45,600 --> 00:06:47,141 | 现在也是在国内比较知名的 |  |
| 177 | 00:06:47,141 --> 00:06:48,419 | 蜂鸟E203的项目 |  |
| 178 | 00:06:48,820 --> 00:06:49,960 | 那这个项目其实本身来讲 |  |
| 179 | 00:06:50,100 --> 00:06:52,759 | 完全是我自己一人 |  |
| 180 | 00:06:53,095 --> 00:06:55,618 | 主要是针对性的解决了咱们国内 |  |
| 181 | 00:06:55,687 --> 00:06:57,659 | 尤其是作为初学者上手RISC-V的 |  |
| 182 | 00:06:57,659 --> 00:06:58,689 | 一些痛点问题 |  |
| 183 | 00:06:58,935 --> 00:07:00,618 | 譬如说采用了标准的V log |  |
| 184 | 00:07:00,618 --> 00:07:01,715 | 比较容易上手 |  |
| 185 | 00:07:01,716 --> 00:07:03,675 | 然后配套了完整的文档 |  |
| 186 | 00:07:03,865 --> 00:07:05,675 | 推出之初其实就说到了 |  |
| 187 | 00:07:05,943 --> 00:07:07,555 | 全行业的这个尤其是 |  |
| 188 | 00:07:07,715 --> 00:07:09,975 | 社区还有高校里面很大的关注 |  |
| 189 | 00:07:10,337 --> 00:07:12,555 | 大大的超出了我当时的意外 |  |
| 190 | 00:07:13,095 --> 00:07:14,135 | 其实发生在 |  |
| 191 | 00:07:14,755 --> 00:07:16,435 | 基本上发生在2016年左右的时候 |  |
| 192 | 00:07:17,412 --> 00:07:19,325 | 在这个过程中 |  |
| 193 | 00:07:19,393 --> 00:07:21,722 | 其实我基本上是完全是靠兴趣 |  |
| 194 | 00:07:22,105 --> 00:07:23,685 | 在驱动我做这个事情 |  |
| 195 | 00:07:24,009 --> 00:07:26,985 | 后来我进一步的还推广了做一些公众号 |  |
| 196 | 00:07:27,045 --> 00:07:27,965 | 出版书籍 |  |
| 197 | 00:07:28,205 --> 00:07:30,062 | 这是为什么呢 |  |
| 198 | 00:07:30,240 --> 00:07:30,925 | 很多人问我 |  |
| 199 | 00:07:30,926 --> 00:07:32,465 | 你为什么要去做这个事情 |  |
| 200 | 00:07:32,505 --> 00:07:34,829 | 其实在【】的时候做这个事情 |  |
| 201 | 00:07:34,829 --> 00:07:37,568 | 主要是出于一种朴素的情怀驱动 |  |
| 202 | 00:07:39,050 --> 00:07:39,803 | 为什么呢 |  |
| 203 | 00:07:39,803 --> 00:07:41,843 | 因为我作为我还是作为一个 |  |
| 204 | 00:07:42,035 --> 00:07:43,306 | 非常热心的 |  |
| 205 | 00:07:44,246 --> 00:07:44,915 | 爱好者 |  |
| 206 | 00:07:45,315 --> 00:07:47,255 | 我感觉RISC-V在国内面临的一个现状 |  |
| 207 | 00:07:47,256 --> 00:07:49,317 | 就是质疑重重 |  |
| 208 | 00:07:49,743 --> 00:07:52,065 | 大家只是把它当个玩具 |  |
| 209 | 00:07:52,125 --> 00:07:54,893 | 或者把它当做 一个开源的【】 |  |
| 210 | 00:07:54,893 --> 00:07:56,445 | 来看待这个事情 |  |
| 211 | 00:07:56,978 --> 00:07:58,485 | 并且RISC-V |  |
| 212 | 00:07:58,545 --> 00:07:59,734 | 在开源这个事件上 |  |
| 213 | 00:07:59,734 --> 00:08:00,885 | 其实因开源而新 |  |
| 214 | 00:08:00,886 --> 00:08:01,985 | 但是也因开源 |  |
| 215 | 00:08:02,570 --> 00:08:05,350 | 产生了很多不同的混淆的声音 |  |
| 216 | 00:08:05,530 --> 00:08:08,230 | 其实很少有人真正的理解RISC-V这个事情 |  |
| 217 | 00:08:08,410 --> 00:08:10,950 | 它背后带来的意义和本质 |  |
| 218 | 00:08:11,546 --> 00:08:17,104 | 所以说我作为一个非常急切的爱好者 |  |
| 219 | 00:08:17,104 --> 00:08:19,014 | 其实我非常不希望 |  |
| 220 | 00:08:19,014 --> 00:08:20,440 | 咱们国内能够再次的 |  |
| 221 | 00:08:20,980 --> 00:08:22,080 | 错失良机 |  |
| 222 | 00:08:22,352 --> 00:08:24,700 | 所以我又采取了一些行动 |  |
| 223 | 00:08:24,853 --> 00:08:26,820 | 我花了将近一年的时间 |  |
| 224 | 00:08:27,070 --> 00:08:29,950 | 基本上都是靠我自己的业余时间 |  |
| 225 | 00:08:29,951 --> 00:08:33,750 | 整个每天都要坚持投入两个小时以上 |  |
| 226 | 00:08:33,850 --> 00:08:35,440 | 节假日都是不存在的 |  |
| 227 | 00:08:35,830 --> 00:08:36,710 | 笔耕不辍 |  |
| 228 | 00:08:36,750 --> 00:08:38,303 | 终于完成了 |  |
| 229 | 00:08:38,803 --> 00:08:42,464 | 中国本土第一套RISC-V的中文的书籍 |  |
| 230 | 00:08:42,501 --> 00:08:44,900 | 在这里面其实大家我经常能用很多的 |  |
| 231 | 00:08:44,953 --> 00:08:46,200 | 通俗的语言 |  |
| 232 | 00:08:46,280 --> 00:08:47,660 | 幽默的语言 |  |
| 233 | 00:08:47,660 --> 00:08:50,080 | 把RISC-V它本身对于行业的意义 |  |
| 234 | 00:08:50,140 --> 00:08:51,700 | 或者行业的过去和现在 |  |
| 235 | 00:08:51,740 --> 00:08:53,360 | 其实做了很多的总结 |  |
| 236 | 00:08:53,506 --> 00:08:56,580 | 这是我的当时的一个目录的节选 |  |
| 237 | 00:08:56,933 --> 00:08:58,699 | 所以说 |  |
| 238 | 00:08:59,412 --> 00:09:00,210 | 直到今天 |  |
| 239 | 00:09:00,211 --> 00:09:01,565 | 其实我们可以看到 |  |
| 240 | 00:09:01,650 --> 00:09:05,790 | 网上有很多关于RISC-V的一些总结和陈述 |  |
| 241 | 00:09:05,850 --> 00:09:06,770 | 其实都可以说 |  |
| 242 | 00:09:06,810 --> 00:09:08,231 | 基本上都是摘抄了 |  |
| 243 | 00:09:08,231 --> 00:09:09,834 | 我这本书上的一些文字 |  |
| 244 | 00:09:09,943 --> 00:09:11,758 | 我也是感到非常荣幸的 |  |
| 245 | 00:09:11,850 --> 00:09:13,618 | 说明我当时的初衷 |  |
| 246 | 00:09:13,618 --> 00:09:14,770 | 确实发挥了作用 |  |
| 247 | 00:09:15,400 --> 00:09:17,915 | 我的声音确实能够传播出来 |  |
| 248 | 00:09:17,916 --> 00:09:19,475 | 让更多的人接受RISC-V |  |
| 249 | 00:09:19,575 --> 00:09:22,275 | 可能也确实加速了它在本土的一些 |  |
| 250 | 00:09:22,353 --> 00:09:23,135 | 推广上的问题 |  |
| 251 | 00:09:23,855 --> 00:09:25,015 | 这就是我在 |  |
| 252 | 00:09:25,405 --> 00:09:28,125 | 2018年以前的三年发生的事情 |  |
| 253 | 00:09:28,925 --> 00:09:29,565 | 在这个过程中 |  |
| 254 | 00:09:29,566 --> 00:09:33,605 | 基本上其实完全是靠一个兴趣和情怀驱动 |  |
| 255 | 00:09:33,845 --> 00:09:35,725 | 其实作为我本人而言 |  |
| 256 | 00:09:35,765 --> 00:09:37,245 | 作为一个纯技术人员而言 |  |
| 257 | 00:09:37,565 --> 00:09:40,825 | 其实很长时间我从来没有去想过创业 |  |
| 258 | 00:09:42,169 --> 00:09:44,130 | 到了2018年 |  |
| 259 | 00:09:45,170 --> 00:09:46,530 | 我创立了芯来科技 |  |
| 260 | 00:09:46,570 --> 00:09:48,830 | 这其实又是一个历史的巧合 |  |
| 261 | 00:09:50,280 --> 00:09:51,900 | 所以我接下来开始介绍 |  |
| 262 | 00:09:52,115 --> 00:09:54,835 | 2018年及以后的三年我们做了什么 |  |
| 263 | 00:09:55,262 --> 00:09:57,206 | 首先为什么 |  |
| 264 | 00:09:57,474 --> 00:09:59,220 | 为什么我们成立芯来科技 |  |
| 265 | 00:09:59,618 --> 00:10:02,378 | 我用唐诗的 |  |
| 266 | 00:10:02,819 --> 00:10:05,017 | 另外一首诗另外一句 |  |
| 267 | 00:10:05,017 --> 00:10:06,825 | 来形容当时的情况 |  |
| 268 | 00:10:06,865 --> 00:10:09,665 | 叫野径云俱黑 江船火独明 |  |
| 269 | 00:10:10,245 --> 00:10:11,325 | 为什么这么说呢 |  |
| 270 | 00:10:13,432 --> 00:10:14,570 | 在2018年的时候 |  |
| 271 | 00:10:14,571 --> 00:10:17,150 | 其实当时面临的现状 |  |
| 272 | 00:10:17,610 --> 00:10:19,490 | 我还是有一些一时的遗憾 |  |
| 273 | 00:10:19,610 --> 00:10:24,150 | 因为我在RISC-V的作为一个兴趣来推广 |  |
| 274 | 00:10:24,151 --> 00:10:26,290 | 其实已经有三年的时间了 |  |
| 275 | 00:10:26,465 --> 00:10:27,900 | 在2018年初 |  |
| 276 | 00:10:27,901 --> 00:10:29,506 | 我们知道美国的SiFive |  |
| 277 | 00:10:29,506 --> 00:10:31,160 | 已经完成了多轮的融资 |  |
| 278 | 00:10:31,480 --> 00:10:33,960 | 并且已经在开始筹备本土的SiFive-China |  |
| 279 | 00:10:34,600 --> 00:10:35,714 | 【】 |  |
| 280 | 00:10:35,720 --> 00:10:37,821 | 本土之外的Andes Cortus |  |
| 281 | 00:10:37,821 --> 00:10:39,378 | 等等一些其他的公司 |  |
| 282 | 00:10:39,451 --> 00:10:41,330 | 其实已经全面的转向RISC-V |  |
| 283 | 00:10:41,556 --> 00:10:43,490 | 当时我们本土的情况是怎样子的呢 |  |
| 284 | 00:10:43,956 --> 00:10:45,286 | 本土没有行动 |  |
| 285 | 00:10:45,431 --> 00:10:46,061 | 没有投资 |  |
| 286 | 00:10:47,828 --> 00:10:51,950 | 所以我又有点【】了 |  |
| 287 | 00:10:52,130 --> 00:10:53,850 | 所以我当时感到焦心如焚 |  |
| 288 | 00:10:54,150 --> 00:10:54,930 | 我觉得我们 |  |
| 289 | 00:10:54,990 --> 00:10:56,478 | 本土真的不应该 |  |
| 290 | 00:10:56,478 --> 00:10:58,050 | 错失这样的一个良机 |  |
| 291 | 00:10:58,890 --> 00:11:01,980 | 所以在2018年初的时候 |  |
| 292 | 00:11:01,981 --> 00:11:03,860 | 可能也是出于一时的冲动 |  |
| 293 | 00:11:03,861 --> 00:11:05,660 | 所以说我本着这个 |  |
| 294 | 00:11:05,753 --> 00:11:07,840 | 我觉得我说本土没有人做 |  |
| 295 | 00:11:07,940 --> 00:11:09,160 | 那么我来做这个事情 |  |
| 296 | 00:11:09,440 --> 00:11:11,480 | 我不入地狱谁入地狱的这个心态 |  |
| 297 | 00:11:11,665 --> 00:11:13,650 | 在2018年上半年辞职 |  |
| 298 | 00:11:13,952 --> 00:11:15,300 | 筹备芯来科技 |  |
| 299 | 00:11:16,170 --> 00:11:17,250 | 冲动是魔鬼 |  |
| 300 | 00:11:17,847 --> 00:11:19,634 | 所以说当事人 |  |
| 301 | 00:11:19,634 --> 00:11:21,070 | 也是留下了悔恨的泪水 |  |
| 302 | 00:11:22,525 --> 00:11:24,450 | 在2018年的6月22日 |  |
| 303 | 00:11:24,451 --> 00:11:26,310 | 我们芯来科技终于成立了 |  |
| 304 | 00:11:26,330 --> 00:11:27,430 | 在工商局注册成立 |  |
| 305 | 00:11:27,490 --> 00:11:28,475 | 这就是刚刚说的 |  |
| 306 | 00:11:28,662 --> 00:11:30,090 | 在今年刚好是三年 |  |
| 307 | 00:11:30,306 --> 00:11:31,290 | 我们成立之后 |  |
| 308 | 00:11:31,291 --> 00:11:33,570 | 作为本土的一家纯本土的 |  |
| 309 | 00:11:33,885 --> 00:11:36,545 | 真正的第一家专业专注于RISC-V CPU IP |  |
| 310 | 00:11:36,546 --> 00:11:39,225 | 和解决发展公司也算是成立了 |  |
| 311 | 00:11:39,225 --> 00:11:42,185 | 因为我们只有标准没有实现 |  |
| 312 | 00:11:42,418 --> 00:11:45,105 | 我们本土又会错失这样的一个机会 |  |
| 313 | 00:11:45,153 --> 00:11:48,625 | 我们本土的公司也只能采购国外的IP |  |
| 314 | 00:11:49,235 --> 00:11:51,215 | 其实本质上也还是没有发生变化 |  |
| 315 | 00:11:51,275 --> 00:11:52,689 | 所以一个标准的诞生 |  |
| 316 | 00:11:52,689 --> 00:11:53,715 | 我们应该要尽早 |  |
| 317 | 00:11:53,755 --> 00:11:54,895 | 及早的去拥抱 |  |
| 318 | 00:11:56,749 --> 00:11:59,000 | 所以说当我们芯来科技起步之后 |  |
| 319 | 00:11:59,160 --> 00:12:02,200 | 可以说真的是非常的艰苦 |  |
| 320 | 00:12:02,382 --> 00:12:03,940 | 一场筚路蓝缕的起步 |  |
| 321 | 00:12:04,306 --> 00:12:06,040 | 那我们起步之后作的第一件事情 |  |
| 322 | 00:12:06,041 --> 00:12:07,660 | 是在2018年6月30日 |  |
| 323 | 00:12:08,080 --> 00:12:09,406 | 我还记得大概也是三年前 |  |
| 324 | 00:12:09,406 --> 00:12:10,360 | 也是在上海 |  |
| 325 | 00:12:10,612 --> 00:12:13,870 | 我们作为中国大陆唯一的一家本土公司 |  |
| 326 | 00:12:13,992 --> 00:12:16,087 | 亮相RISC-V ShanghaiDay |  |
| 327 | 00:12:16,307 --> 00:12:20,250 | 这是当时的一个截图 |  |
| 328 | 00:12:20,360 --> 00:12:22,170 | 所以说当时其实基本上是一个 |  |
| 329 | 00:12:22,381 --> 00:12:24,670 | 全英文的一个场合 |  |
| 330 | 00:12:24,671 --> 00:12:26,270 | 因为基本上都是国外的公司 |  |
| 331 | 00:12:26,283 --> 00:12:27,195 | 从SiFive |  |
| 332 | 00:12:27,390 --> 00:12:29,310 | 到刚刚说的各个的国外的公司 |  |
| 333 | 00:12:29,340 --> 00:12:32,629 | 我们作为一个中国大陆唯一的一家公司 |  |
| 334 | 00:12:32,711 --> 00:12:33,530 | 来发表了自己演讲 |  |
| 335 | 00:12:33,531 --> 00:12:35,230 | 同时在会上我们也宣布 |  |
| 336 | 00:12:35,459 --> 00:12:37,911 | 我们芯来科技成立了 |  |
| 337 | 00:12:38,104 --> 00:12:42,349 | 当时主办方其实对我给予了很好的评价 |  |
| 338 | 00:12:42,431 --> 00:12:44,240 | 说 胡总 你讲的实在太好了 |  |
| 339 | 00:12:45,090 --> 00:12:47,100 | 那我说要不你帮我把火车票给报了吧 |  |
| 340 | 00:12:49,349 --> 00:12:52,395 | 所以说这就是我们的一个起步 |  |
| 341 | 00:12:52,461 --> 00:12:55,495 | 可以说是非常的艰苦筚路蓝缕的起步 |  |
| 342 | 00:12:56,200 --> 00:12:57,015 | 可以说 |  |
| 343 | 00:12:57,653 --> 00:13:00,293 | 我们在2018年6月份从武汉开始起步 |  |
| 344 | 00:13:01,062 --> 00:13:01,720 | 自筹经费 |  |
| 345 | 00:13:02,831 --> 00:13:04,480 | 借朋友的公司 |  |
| 346 | 00:13:04,572 --> 00:13:07,588 | 在办公室里面渡过了前期的几个月 |  |
| 347 | 00:13:07,588 --> 00:13:08,886 | 这是我们当时在 |  |
| 348 | 00:13:09,020 --> 00:13:10,718 | 朋友公司的办公室里面的合影 |  |
| 349 | 00:13:10,796 --> 00:13:11,620 | 来自于武汉 |  |
| 350 | 00:13:11,821 --> 00:13:14,573 | 这也是非常珍贵的一张合影 |  |
| 351 | 00:13:14,801 --> 00:13:15,735 | 这就是当时的情况 |  |
| 352 | 00:13:15,987 --> 00:13:18,267 | 可以说是一无所有 |  |
| 353 | 00:13:18,524 --> 00:13:20,650 | 筚路蓝缕 |  |
| 354 | 00:13:21,794 --> 00:13:24,140 | 可能别人的起步是这样子的 |  |
| 355 | 00:13:25,128 --> 00:13:26,353 | 我们的起步 |  |
| 356 | 00:13:26,441 --> 00:13:28,500 | 真实的起步就是这样子的 |  |
| 357 | 00:13:29,172 --> 00:13:30,600 | 所以说这确实是 |  |
| 358 | 00:13:30,920 --> 00:13:31,859 | 我们芯来科技的起步 |  |
| 359 | 00:13:31,859 --> 00:13:33,340 | 就是如此的艰辛 |  |
| 360 | 00:13:34,227 --> 00:13:35,655 | 作为一个创业公司 |  |
| 361 | 00:13:35,655 --> 00:13:39,290 | 没有资金不能发展 |  |
| 362 | 00:13:39,290 --> 00:13:41,365 | 作为高科技企业基本上是 |  |
| 363 | 00:13:41,931 --> 00:13:43,233 | 一个非常烧钱的 |  |
| 364 | 00:13:43,385 --> 00:13:45,575 | 一个赛道 |  |
| 365 | 00:13:45,865 --> 00:13:46,736 | 所以说 |  |
| 366 | 00:13:47,018 --> 00:13:49,110 | 于是我和我的合伙人开启了 |  |
| 367 | 00:13:49,224 --> 00:13:52,377 | 披荆斩棘的融资的历程 |  |
| 368 | 00:13:54,587 --> 00:13:56,169 | 由于我们当时在武汉 |  |
| 369 | 00:13:56,206 --> 00:13:58,889 | 所以说我们要去一线城市去融资 |  |
| 370 | 00:13:58,889 --> 00:14:01,225 | 所以我们就基本上分头的去 |  |
| 371 | 00:14:01,554 --> 00:14:03,004 | 北上深这些地方 |  |
| 372 | 00:14:03,162 --> 00:14:04,630 | 大概相继的见了 |  |
| 373 | 00:14:04,797 --> 00:14:06,190 | 数不胜数的投资人 |  |
| 374 | 00:14:06,728 --> 00:14:08,783 | 我们的高铁票基本上都凑齐了 |  |
| 375 | 00:14:09,070 --> 00:14:11,117 | 几副扑克牌这么厚的一个过程 |  |
| 376 | 00:14:11,302 --> 00:14:12,970 | 所以早期是非常的艰苦 |  |
| 377 | 00:14:15,225 --> 00:14:16,461 | 见到的绝大的投资人都是 |  |
| 378 | 00:14:16,784 --> 00:14:18,153 | 这什么鬼 |  |
| 379 | 00:14:18,705 --> 00:14:19,401 | 拿下 |  |
| 380 | 00:14:19,992 --> 00:14:20,705 | 乱棒打出 |  |
| 381 | 00:14:20,745 --> 00:14:22,925 | 所以基本上都是处于这样的一个状态 |  |
| 382 | 00:14:22,926 --> 00:14:24,118 | 不是在被拒绝 |  |
| 383 | 00:14:24,118 --> 00:14:25,745 | 就是在被拒绝的路上 |  |
| 384 | 00:14:25,996 --> 00:14:28,760 | 所以当时的情况可能是这样子的一个情况 |  |
| 385 | 00:14:31,629 --> 00:14:33,230 | 所以基本上是在 |  |
| 386 | 00:14:33,230 --> 00:14:34,920 | 不断的在一个被拒绝的过程 |  |
| 387 | 00:14:34,921 --> 00:14:37,910 | 但是我们还是咬牙了在坚持 |  |
| 388 | 00:14:38,956 --> 00:14:41,555 | 随着一系列的努力 |  |
| 389 | 00:14:41,880 --> 00:14:42,780 | 也随着我们团队的 |  |
| 390 | 00:14:42,960 --> 00:14:45,724 | 硬实力和我们的务实的作风和努力 |  |
| 391 | 00:14:46,010 --> 00:14:47,770 | 终于在2018年底 |  |
| 392 | 00:14:47,850 --> 00:14:49,850 | 我们获得了由上海本土 |  |
| 393 | 00:14:49,946 --> 00:14:51,750 | 这边重磅的一些企业 |  |
| 394 | 00:14:51,751 --> 00:14:54,181 | 像晶晨半导体芯原微电子 |  |
| 395 | 00:14:54,181 --> 00:14:56,150 | 投资的天使轮的融资 |  |
| 396 | 00:14:56,476 --> 00:14:58,200 | 我们也因为这样一个契机 |  |
| 397 | 00:14:58,200 --> 00:15:00,540 | 将公司的总部搬到了上海的张江 |  |
| 398 | 00:15:00,721 --> 00:15:01,940 | 所以我们其实是一个 |  |
| 399 | 00:15:01,940 --> 00:15:04,640 | 总部位于张江的企业 |  |
| 400 | 00:15:04,680 --> 00:15:06,238 | 所以说其实也是确实 |  |
| 401 | 00:15:06,678 --> 00:15:08,003 | 因为上海而结缘 |  |
| 402 | 00:15:08,003 --> 00:15:10,037 | 上海这个产业的推动 |  |
| 403 | 00:15:10,084 --> 00:15:12,250 | 我们才得以真正的落地和起步 |  |
| 404 | 00:15:12,628 --> 00:15:15,683 | 在后面的若干的几年里面 |  |
| 405 | 00:15:15,683 --> 00:15:17,410 | 通过我们一系列的务实和努力 |  |
| 406 | 00:15:17,670 --> 00:15:19,425 | 我们也终于相继的获得了 |  |
| 407 | 00:15:19,425 --> 00:15:20,950 | 一系列的产业化 |  |
| 408 | 00:15:20,951 --> 00:15:22,150 | 像小米 |  |
| 409 | 00:15:22,350 --> 00:15:24,750 | 像中电和烽火等等这些知名的产业方 |  |
| 410 | 00:15:24,830 --> 00:15:26,581 | 还有一些知名的 |  |
| 411 | 00:15:26,870 --> 00:15:29,710 | 主流一线机构的认可和融资 |  |
| 412 | 00:15:29,796 --> 00:15:33,795 | 我终于不用再向主办方报销火车票了 |  |
| 413 | 00:15:35,440 --> 00:15:36,270 | 所以说 |  |
| 414 | 00:15:37,330 --> 00:15:39,575 | 这就是我们整个芯来科技 |  |
| 415 | 00:15:39,830 --> 00:15:42,660 | 早期一个非常艰难的一个发展的历程 |  |
| 416 | 00:15:44,410 --> 00:15:46,970 | 公司要发展也需要更多的人才加入我们 |  |
| 417 | 00:15:47,090 --> 00:15:49,193 | 所以我们也经历了历尽艰险的 |  |
| 418 | 00:15:49,193 --> 00:15:50,110 | 一个招聘的过程 |  |
| 419 | 00:15:51,034 --> 00:15:52,675 | 这就是我们的招聘会现场 |  |
| 420 | 00:15:52,715 --> 00:15:54,194 | 这个是我们的HR |  |
| 421 | 00:15:54,338 --> 00:15:57,395 | 这也是一个非常的有历史意义的照片 |  |
| 422 | 00:15:57,715 --> 00:16:00,015 | 参与者是没有人 |  |
| 423 | 00:16:00,362 --> 00:16:01,015 | 所以说 |  |
| 424 | 00:16:01,115 --> 00:16:04,115 | 当我们去学校里面去开招聘会的时候 |  |
| 425 | 00:16:04,435 --> 00:16:06,134 | 很多的学生都云集在我身边 |  |
| 426 | 00:16:06,134 --> 00:16:07,375 | 说胡老师 |  |
| 427 | 00:16:07,575 --> 00:16:09,096 | 我可算见到真人了 |  |
| 428 | 00:16:09,096 --> 00:16:10,343 | 帮我来签个名 |  |
| 429 | 00:16:10,403 --> 00:16:12,455 | 我一定要请你让你给我亲笔签名 |  |
| 430 | 00:16:12,456 --> 00:16:14,455 | 我的毕业设计都是看你的书完成的 |  |
| 431 | 00:16:15,356 --> 00:16:16,787 | 我说那要不加入我吧 |  |
| 432 | 00:16:17,227 --> 00:16:18,355 | 胡老师 我有课 |  |
| 433 | 00:16:18,356 --> 00:16:19,155 | 我先走了 |  |
| 434 | 00:16:20,835 --> 00:16:21,975 | 就是这样的一个情况 |  |
| 435 | 00:16:22,109 --> 00:16:23,615 | 有很多人加我的微信说 |  |
| 436 | 00:16:23,616 --> 00:16:25,216 | 胡总 你这书写得很好 |  |
| 437 | 00:16:25,216 --> 00:16:25,755 | 有技术 |  |
| 438 | 00:16:25,756 --> 00:16:26,480 | 有情怀 |  |
| 439 | 00:16:26,673 --> 00:16:27,685 | 这是非常佩服的 |  |
| 440 | 00:16:27,686 --> 00:16:28,857 | 我说那你要不加入我吧 |  |
| 441 | 00:16:29,945 --> 00:16:31,431 | 对方已经拒绝了你的消息 |  |
| 442 | 00:16:31,431 --> 00:16:32,985 | 不是你的好友 |  |
| 443 | 00:16:34,162 --> 00:16:35,785 | 这就是我们的真实的写照 |  |
| 444 | 00:16:36,448 --> 00:16:38,765 | 所以每一个员工的招聘都要亲力亲为 |  |
| 445 | 00:16:39,051 --> 00:16:41,080 | 三十顾茅庐 七十擒孟获 |  |
| 446 | 00:16:41,380 --> 00:16:43,132 | 这都是日常操作 |  |
| 447 | 00:16:43,132 --> 00:16:43,800 | 都算好的 |  |
| 448 | 00:16:44,590 --> 00:16:45,413 | 所以说 |  |
| 449 | 00:16:46,400 --> 00:16:50,820 | 也是一个非常满纸荒唐言的一个历程 |  |
| 450 | 00:16:50,880 --> 00:16:53,440 | 真的是说历尽艰险的一个招聘 |  |
| 451 | 00:16:54,709 --> 00:16:57,180 | 在我们公司最危难的时刻 |  |
| 452 | 00:16:57,304 --> 00:17:00,340 | 我的老上级彭剑英彭博士 |  |
| 453 | 00:17:00,341 --> 00:17:02,420 | 我们以前Synopsys ARC |  |
| 454 | 00:17:02,480 --> 00:17:03,460 | 中国区的负责人 |  |
| 455 | 00:17:03,740 --> 00:17:07,141 | 也舍弃了非常幽默的工作加入我们 |  |
| 456 | 00:17:07,846 --> 00:17:11,112 | 在内内外外其实也给我分担了很多很多 |  |
| 457 | 00:17:11,112 --> 00:17:13,725 | 对我们公司起到了很大的帮助作用 |  |
| 458 | 00:17:14,056 --> 00:17:15,305 | 在后面的过程中 |  |
| 459 | 00:17:15,425 --> 00:17:16,945 | 通过不断的感召 |  |
| 460 | 00:17:17,265 --> 00:17:19,803 | 我们团队陆陆续续的来自很多大公司 |  |
| 461 | 00:17:20,165 --> 00:17:22,325 | 或者前同事陆陆续续的加入我们 |  |
| 462 | 00:17:22,643 --> 00:17:24,102 | 那么直到今天 |  |
| 463 | 00:17:24,102 --> 00:17:25,170 | 我们花了三年的时间 |  |
| 464 | 00:17:25,590 --> 00:17:28,250 | 我们团队规模基本上达到一百人 |  |
| 465 | 00:17:28,631 --> 00:17:30,791 | 初步的完成了梯队的建设 |  |
| 466 | 00:17:31,390 --> 00:17:32,515 | 并且我们团队基本上 |  |
| 467 | 00:17:32,515 --> 00:17:34,190 | 已经具备了丰富的IP |  |
| 468 | 00:17:34,250 --> 00:17:38,397 | 和SoC全产业链的一个研发和推广经验 |  |
| 469 | 00:17:38,615 --> 00:17:39,372 | 这个过程 |  |
| 470 | 00:17:39,462 --> 00:17:40,635 | 其实说我可能 |  |
| 471 | 00:17:41,643 --> 00:17:42,793 | 花在招聘上的时间 |  |
| 472 | 00:17:42,793 --> 00:17:45,365 | 是远远花在见投资人的时间 |  |
| 473 | 00:17:45,603 --> 00:17:48,165 | 这个过程其实真的是不容易 |  |
| 474 | 00:17:48,225 --> 00:17:49,625 | 每一个招聘进来的员工 |  |
| 475 | 00:17:49,745 --> 00:17:52,085 | 都值得我们非常好好的珍惜 |  |
| 476 | 00:17:52,205 --> 00:17:53,985 | 也值得大家一起好好的拥有 |  |
| 477 | 00:17:56,243 --> 00:17:57,765 | 我们作为一个创业公司 |  |
| 478 | 00:17:57,766 --> 00:18:00,005 | 在三年里面马不停蹄的在拓展 |  |
| 479 | 00:18:00,165 --> 00:18:01,745 | 可以说是栉风沐雨的拓展 |  |
| 480 | 00:18:03,780 --> 00:18:04,748 | 从最开始 |  |
| 481 | 00:18:04,886 --> 00:18:06,315 | 我一个人兼任 |  |
| 482 | 00:18:06,315 --> 00:18:08,765 | 亲自兼任市场销售知识 |  |
| 483 | 00:18:09,325 --> 00:18:10,903 | 可以说是董事长 总经理 |  |
| 484 | 00:18:11,225 --> 00:18:12,339 | 出纳迎宾 保安 |  |
| 485 | 00:18:12,339 --> 00:18:13,205 | 都是我一个 |  |
| 486 | 00:18:16,756 --> 00:18:18,015 | 花了三年的时间 |  |
| 487 | 00:18:18,055 --> 00:18:20,975 | 我们终于搭建起了全地域的 |  |
| 488 | 00:18:21,095 --> 00:18:24,215 | 完备的市场销售支持团队 |  |
| 489 | 00:18:24,306 --> 00:18:26,555 | 我们花了真正的整整三年的时间 |  |
| 490 | 00:18:26,937 --> 00:18:28,680 | 确实是非常的不容易 |  |
| 491 | 00:18:28,760 --> 00:18:30,900 | 但是这也是初步完成 |  |
| 492 | 00:18:30,960 --> 00:18:32,620 | 其实我们还有很长的路要走 |  |
| 493 | 00:18:35,590 --> 00:18:38,195 | 随着我们一刻不停的推广 |  |
| 494 | 00:18:38,387 --> 00:18:40,075 | 我们在这三年里面 |  |
| 495 | 00:18:40,076 --> 00:18:41,128 | 通过我们的 |  |
| 496 | 00:18:41,275 --> 00:18:44,275 | 艰苦的努力和真的是贴身的服务 |  |
| 497 | 00:18:44,276 --> 00:18:46,255 | 我们也收获了很多 |  |
| 498 | 00:18:46,375 --> 00:18:48,955 | 这可能是我们最值得骄傲的地方 |  |
| 499 | 00:18:49,059 --> 00:18:52,395 | 我们全系列的RISC-V的CPU IP |  |
| 500 | 00:18:52,455 --> 00:18:55,040 | 目前在国内的评估数量 |  |
| 501 | 00:18:55,040 --> 00:18:56,905 | 每个月都在攀升 |  |
| 502 | 00:18:56,906 --> 00:18:57,885 | 就突破了几百层 |  |
| 503 | 00:18:58,334 --> 00:19:01,065 | 另外我们也收获了近百家正式的 |  |
| 504 | 00:19:01,525 --> 00:19:03,285 | 重量级的 来自各个行业 |  |
| 505 | 00:19:03,286 --> 00:19:04,925 | 各个领域的客户 |  |
| 506 | 00:19:05,482 --> 00:19:06,975 | 所以基本上覆盖了全行业 |  |
| 507 | 00:19:06,976 --> 00:19:08,155 | 确立作为我们一个 |  |
| 508 | 00:19:08,215 --> 00:19:10,935 | 从零开始完全自主研发的企业 |  |
| 509 | 00:19:11,496 --> 00:19:13,136 | 这是我们最引以为豪的地方 |  |
| 510 | 00:19:13,136 --> 00:19:15,415 | 说明我们真的赋能了本土的行业 |  |
| 511 | 00:19:15,416 --> 00:19:18,080 | 帮助到了本土的公司的拓展 |  |
| 512 | 00:19:18,747 --> 00:19:19,884 | 当然最重要的是 |  |
| 513 | 00:19:19,884 --> 00:19:20,805 | 这三年里面 |  |
| 514 | 00:19:20,885 --> 00:19:22,190 | 我们芯来科技几乎是 |  |
| 515 | 00:19:22,190 --> 00:19:25,725 | 以拼命三郎式的风格在进行研发 |  |
| 516 | 00:19:26,245 --> 00:19:29,285 | 我们知道从零到一往往是最难的 |  |
| 517 | 00:19:29,518 --> 00:19:30,782 | 因为在这个过程中 |  |
| 518 | 00:19:31,043 --> 00:19:32,165 | 作为一个创业公司 |  |
| 519 | 00:19:32,290 --> 00:19:33,856 | 真的是要边打仗 |  |
| 520 | 00:19:33,925 --> 00:19:34,581 | 边造武器 |  |
| 521 | 00:19:35,096 --> 00:19:35,825 | 边招兵 |  |
| 522 | 00:19:35,925 --> 00:19:37,400 | 边练兵 |  |
| 523 | 00:19:37,400 --> 00:19:39,025 | 经历了很多很多的考验 |  |
| 524 | 00:19:39,026 --> 00:19:40,105 | 方方面面的考验 |  |
| 525 | 00:19:40,431 --> 00:19:41,443 | 包括疫情 |  |
| 526 | 00:19:41,862 --> 00:19:43,250 | 在武汉期间疫情的考验 |  |
| 527 | 00:19:43,470 --> 00:19:45,210 | 大家知道我们起步于武汉 |  |
| 528 | 00:19:45,211 --> 00:19:47,570 | 我们的研发主体其实主要都在武汉 |  |
| 529 | 00:19:47,571 --> 00:19:49,390 | 包括我本人当时也在武汉 |  |
| 530 | 00:19:50,865 --> 00:19:51,795 | 疫情到来之后 |  |
| 531 | 00:19:51,796 --> 00:19:54,231 | 基本上我也是长太息以掩涕兮 |  |
| 532 | 00:19:54,681 --> 00:19:56,096 | 哀民生之多艰 |  |
| 533 | 00:19:56,385 --> 00:19:58,480 | 我当时觉得我可能要呜呼哀哉了 |  |
| 534 | 00:19:58,635 --> 00:19:59,935 | 这个要抚慰上下了 |  |
| 535 | 00:20:00,575 --> 00:20:01,906 | 所以其实基本上 |  |
| 536 | 00:20:02,106 --> 00:20:03,635 | 面临了很大的一个挑战 |  |
| 537 | 00:20:03,953 --> 00:20:06,155 | 好在武汉是个英雄的城市 |  |
| 538 | 00:20:06,156 --> 00:20:07,375 | 我们又爬起来了 |  |
| 539 | 00:20:07,921 --> 00:20:10,215 | 所以说我们昼夜不息 |  |
| 540 | 00:20:10,216 --> 00:20:12,295 | 基本上是马不停蹄的在研发 |  |
| 541 | 00:20:13,150 --> 00:20:14,211 | 在这三年里面 |  |
| 542 | 00:20:14,211 --> 00:20:15,095 | 我们从零开始 |  |
| 543 | 00:20:15,195 --> 00:20:17,095 | 每一行代码都有自己构建 |  |
| 544 | 00:20:17,235 --> 00:20:20,068 | 基本上陆陆续续推出了200系列 |  |
| 545 | 00:20:20,635 --> 00:20:22,035 | 100和300系列 |  |
| 546 | 00:20:22,493 --> 00:20:23,595 | 600系列 |  |
| 547 | 00:20:24,115 --> 00:20:24,775 | 900系列 |  |
| 548 | 00:20:25,315 --> 00:20:26,395 | 包括我们接下来马上要 |  |
| 549 | 00:20:26,396 --> 00:20:27,715 | 发布的900多核系列 |  |
| 550 | 00:20:27,833 --> 00:20:31,095 | 基本上可以说从零开始构建了一个全矩阵 |  |
| 551 | 00:20:31,213 --> 00:20:34,153 | 全【】的CPU IP的产品 |  |
| 552 | 00:20:34,368 --> 00:20:37,005 | 我曾经遇到过好几个客户跟我说 |  |
| 553 | 00:20:37,318 --> 00:20:38,405 | 我多么希望 |  |
| 554 | 00:20:38,525 --> 00:20:41,365 | 本土有一家公司能够提供全系列的IP |  |
| 555 | 00:20:41,405 --> 00:20:43,245 | 这样我们本土的供应链就能够 |  |
| 556 | 00:20:43,325 --> 00:20:44,245 | 真的完备了 |  |
| 557 | 00:20:45,550 --> 00:20:46,965 | 我当时觉得 |  |
| 558 | 00:20:47,105 --> 00:20:48,565 | 看来我们干的事情还是有点意义 |  |
| 559 | 00:20:49,046 --> 00:20:51,865 | 所以说基本上是在马不停蹄的做 |  |
| 560 | 00:20:52,040 --> 00:20:54,105 | CPU内核的开发 |  |
| 561 | 00:20:54,853 --> 00:20:57,565 | 当然我们IP我就不详细展开讲了 |  |
| 562 | 00:20:59,575 --> 00:21:02,495 | 和与之配套的全站的软件的平台 |  |
| 563 | 00:21:04,111 --> 00:21:05,665 | 和相应的IDE工具 |  |
| 564 | 00:21:05,834 --> 00:21:07,945 | 当然除了这些之外 |  |
| 565 | 00:21:08,165 --> 00:21:10,185 | 我们为了更好的服务本土的客户 |  |
| 566 | 00:21:10,305 --> 00:21:12,571 | 我们还推出了全套的SoC子系统的 |  |
| 567 | 00:21:12,571 --> 00:21:15,155 | IP全栈式的授权模式 |  |
| 568 | 00:21:15,309 --> 00:21:18,509 | 这其实与过去ARM的CPU IP是很大的差异 |  |
| 569 | 00:21:18,821 --> 00:21:20,878 | ARM的CPU就是给你一个库 |  |
| 570 | 00:21:21,115 --> 00:21:23,401 | 但是我们其实围绕着RISC-V |  |
| 571 | 00:21:23,495 --> 00:21:25,475 | 发挥RISC-V这种模块化的优势 |  |
| 572 | 00:21:25,684 --> 00:21:29,755 | 也开发了周边几十种功能性的功能IP |  |
| 573 | 00:21:29,937 --> 00:21:32,275 | 它与整个CPU是紧偶合在一起 |  |
| 574 | 00:21:32,536 --> 00:21:34,195 | 全平台的是可以 |  |
| 575 | 00:21:35,078 --> 00:21:37,064 | 一个可配置的形式出现在客户那 |  |
| 576 | 00:21:37,064 --> 00:21:39,120 | 所以说基本上我们 |  |
| 577 | 00:21:39,380 --> 00:21:41,580 | 交付客户之后其实是一个子系统 |  |
| 578 | 00:21:41,580 --> 00:21:43,460 | 客户只需要把它的其他的 |  |
| 579 | 00:21:43,500 --> 00:21:45,200 | 加速器和其他的一些IP |  |
| 580 | 00:21:45,200 --> 00:21:47,332 | 挂载在一些扩展的 |  |
| 581 | 00:21:47,640 --> 00:21:48,560 | 接口上就可以 |  |
| 582 | 00:21:48,760 --> 00:21:50,760 | 真正的是帮本土的客户 |  |
| 583 | 00:21:51,060 --> 00:21:52,610 | 我们说通俗来讲就是 |  |
| 584 | 00:21:52,843 --> 00:21:53,365 | 省钱 |  |
| 585 | 00:21:53,764 --> 00:21:54,560 | 省时间 |  |
| 586 | 00:21:54,664 --> 00:21:55,353 | 省力 |  |
| 587 | 00:21:55,742 --> 00:21:58,085 | 受到了本土客户强烈的欢迎 |  |
| 588 | 00:21:58,188 --> 00:21:59,884 | 所以说这也是我们一个非常大的 |  |
| 589 | 00:22:00,166 --> 00:22:01,775 | 差异化的这个过程 |  |
| 590 | 00:22:01,835 --> 00:22:03,015 | 这也是我们过去这几年 |  |
| 591 | 00:22:03,075 --> 00:22:05,115 | 推广CPU IP的一个非常大的 |  |
| 592 | 00:22:05,168 --> 00:22:06,595 | 差异化的点 |  |
| 593 | 00:22:08,225 --> 00:22:11,345 | 所以说我们这三年拼命三郎式的研发 |  |
| 594 | 00:22:11,405 --> 00:22:12,485 | 我们积累了什么 |  |
| 595 | 00:22:13,205 --> 00:22:15,325 | 其实在我看来还不够快 |  |
| 596 | 00:22:15,445 --> 00:22:17,145 | 也就是搭了一个基础设施 |  |
| 597 | 00:22:17,325 --> 00:22:18,565 | 因为我们要从零开始 |  |
| 598 | 00:22:18,566 --> 00:22:19,865 | 其实背负了很大的抱负 |  |
| 599 | 00:22:20,644 --> 00:22:22,205 | 所以我们基本上可以说 |  |
| 600 | 00:22:22,390 --> 00:22:24,292 | 搭建了几个方面的技术设施 |  |
| 601 | 00:22:24,409 --> 00:22:26,565 | 全建制 全方位的研发团队 |  |
| 602 | 00:22:26,925 --> 00:22:28,045 | 终于搭建完毕 |  |
| 603 | 00:22:28,765 --> 00:22:32,605 | 全系列的RISC-V CPU和SoC IP矩阵 |  |
| 604 | 00:22:33,020 --> 00:22:34,480 | 初步搭建出框架 |  |
| 605 | 00:22:35,340 --> 00:22:37,240 | 当然还有很多的需要补充 |  |
| 606 | 00:22:37,825 --> 00:22:40,185 | 然后我们也搭建了一套完全自主的 |  |
| 607 | 00:22:40,186 --> 00:22:43,585 | 全平台的开发流程和敏捷化的工具 |  |
| 608 | 00:22:43,745 --> 00:22:46,645 | 我们的开发效率可能是传统方式的若干倍 |  |
| 609 | 00:22:46,645 --> 00:22:48,865 | 当然我们并不是采取Chisel的方式 |  |
| 610 | 00:22:48,865 --> 00:22:50,116 | 而是这种 |  |
| 611 | 00:22:51,158 --> 00:22:53,005 | 改造过【】的这种语法 |  |
| 612 | 00:22:53,006 --> 00:22:54,925 | 所以说兼顾了这种传统方式 |  |
| 613 | 00:22:55,136 --> 00:22:56,545 | 和这种新方式的这种 |  |
| 614 | 00:22:57,403 --> 00:22:59,505 | 敏捷化的这种优势 |  |
| 615 | 00:22:59,506 --> 00:23:01,405 | 所以说这就是我们花了三年的 |  |
| 616 | 00:23:01,406 --> 00:23:02,765 | 一个搭建的基础设施 |  |
| 617 | 00:23:03,365 --> 00:23:04,225 | 磨刀不误砍柴工 |  |
| 618 | 00:23:04,505 --> 00:23:05,793 | 我相信我们接下来的三年 |  |
| 619 | 00:23:05,793 --> 00:23:08,285 | 一定会步入一个 更加的快车道 |  |
| 620 | 00:23:09,365 --> 00:23:10,785 | 在这三年我最大的感悟是什么 |  |
| 621 | 00:23:10,845 --> 00:23:12,665 | 就是说要自力更生 |  |
| 622 | 00:23:12,921 --> 00:23:13,683 | 没有捷径 |  |
| 623 | 00:23:14,144 --> 00:23:15,560 | 如果我们去寻找捷径 |  |
| 624 | 00:23:15,909 --> 00:23:17,060 | 最后都要付出代价 |  |
| 625 | 00:23:17,366 --> 00:23:17,940 | 所以说 |  |
| 626 | 00:23:18,000 --> 00:23:19,268 | 自力更生 没有捷径 |  |
| 627 | 00:23:19,268 --> 00:23:20,278 | 就是我最大的感悟 |  |
| 628 | 00:23:20,580 --> 00:23:22,218 | 也贯彻了我们公司 |  |
| 629 | 00:23:22,218 --> 00:23:23,860 | 上上下下的文化之中 |  |
| 630 | 00:23:25,856 --> 00:23:26,825 | 所以说最后 |  |
| 631 | 00:23:27,059 --> 00:23:27,818 | 我再谈一下 |  |
| 632 | 00:23:27,818 --> 00:23:30,200 | 对我们接下来未来三年的一个希望 |  |
| 633 | 00:23:31,134 --> 00:23:32,985 | 我用这首诗的最后一句话来形容 |  |
| 634 | 00:23:33,385 --> 00:23:34,265 | 我希望是 |  |
| 635 | 00:23:34,305 --> 00:23:35,487 | 当然我相信一定会是 |  |
| 636 | 00:23:35,556 --> 00:23:36,685 | 晓看红湿处 |  |
| 637 | 00:23:36,925 --> 00:23:38,065 | 花重锦官城 |  |
| 638 | 00:23:40,093 --> 00:23:40,925 | 我们要顺势而为 |  |
| 639 | 00:23:41,405 --> 00:23:44,725 | 我们既要顺应整个行业技术发展的趋势 |  |
| 640 | 00:23:44,878 --> 00:23:46,788 | 但是更多的是应该顺应 |  |
| 641 | 00:23:46,918 --> 00:23:48,345 | 行业本质 |  |
| 642 | 00:23:48,405 --> 00:23:49,925 | 行业发展的规律 |  |
| 643 | 00:23:49,989 --> 00:23:52,225 | 就是现在进入到AIoT时代 |  |
| 644 | 00:23:52,265 --> 00:23:53,865 | 它面临的一个全新的规律 |  |
| 645 | 00:23:54,806 --> 00:23:56,930 | 在过去的若干年里面 |  |
| 646 | 00:23:56,931 --> 00:23:58,103 | 我见证了整个行业 |  |
| 647 | 00:23:58,103 --> 00:23:59,510 | 在第一个三年 |  |
| 648 | 00:23:59,910 --> 00:24:01,330 | RISC-V如星星之火 |  |
| 649 | 00:24:01,825 --> 00:24:02,921 | 我们当年的聚会 |  |
| 650 | 00:24:02,921 --> 00:24:04,530 | 可能只有几十人的规模 |  |
| 651 | 00:24:04,895 --> 00:24:06,755 | 到现在聚集一堂 这么大的规模 |  |
| 652 | 00:24:07,114 --> 00:24:08,755 | 在未来的三年会发生什么 |  |
| 653 | 00:24:09,031 --> 00:24:10,432 | 其实还是非常值得我们 |  |
| 654 | 00:24:11,044 --> 00:24:12,455 | 希望 期待的 |  |
| 655 | 00:24:13,221 --> 00:24:15,195 | 我作为一个个人 |  |
| 656 | 00:24:15,195 --> 00:24:17,048 | 真的是亲历了这个历史 |  |
| 657 | 00:24:17,334 --> 00:24:18,330 | 在第一个三年 |  |
| 658 | 00:24:18,390 --> 00:24:19,470 | 我作为一个个人 |  |
| 659 | 00:24:19,670 --> 00:24:22,010 | 可能只是贡献我自己的绵薄之力 |  |
| 660 | 00:24:22,152 --> 00:24:25,510 | 参与到行业里面的一个观念的推广 |  |
| 661 | 00:24:26,090 --> 00:24:27,890 | 靠自己的兴趣和情怀驱动 |  |
| 662 | 00:24:28,417 --> 00:24:30,918 | 在这个过去的三年里面 |  |
| 663 | 00:24:31,225 --> 00:24:33,065 | 我们芯来科技作为一个团队 |  |
| 664 | 00:24:33,205 --> 00:24:34,505 | 作为一个商业公司 |  |
| 665 | 00:24:34,665 --> 00:24:37,425 | 真正的一个团队的力量去做实事 |  |
| 666 | 00:24:37,485 --> 00:24:38,625 | 输出干货 |  |
| 667 | 00:24:38,824 --> 00:24:40,405 | 赋能本土产业 |  |
| 668 | 00:24:40,933 --> 00:24:42,190 | 那么在接下来的三年 |  |
| 669 | 00:24:42,230 --> 00:24:45,293 | 我希望我们能够进一步的发扬 |  |
| 670 | 00:24:45,293 --> 00:24:46,050 | 我们的风格 |  |
| 671 | 00:24:46,051 --> 00:24:48,290 | 为本土真正的赋能更多 |  |
| 672 | 00:24:50,556 --> 00:24:53,565 | 所以我们会推出更多高性能的CPU IP |  |
| 673 | 00:24:53,566 --> 00:24:56,405 | 并且我们的IP都是对外授权的 |  |
| 674 | 00:24:56,406 --> 00:24:57,485 | 所以说本这个行业 |  |
| 675 | 00:24:57,545 --> 00:24:59,365 | 产业都可以获得赋能 |  |
| 676 | 00:24:59,900 --> 00:25:01,460 | 另外从接下来三年 |  |
| 677 | 00:25:01,520 --> 00:25:02,480 | 我们要开始 |  |
| 678 | 00:25:02,540 --> 00:25:03,778 | 面向垂直领域 |  |
| 679 | 00:25:03,778 --> 00:25:05,500 | 推出更多的整体解决方案 |  |
| 680 | 00:25:05,600 --> 00:25:07,560 | 推出更多垂直领域的RISC-V |  |
| 681 | 00:25:08,220 --> 00:25:11,460 | 真正发挥了RISC-V优势的IP组合 |  |
| 682 | 00:25:13,865 --> 00:25:15,700 | 我们也会推出更多的 |  |
| 683 | 00:25:15,871 --> 00:25:20,445 | 以RISC-V为核心的全矩阵的SoC IP矩阵 |  |
| 684 | 00:25:20,485 --> 00:25:21,859 | 和与之配套的更敏捷的 |  |
| 685 | 00:25:21,859 --> 00:25:23,645 | SoC软硬件的解决方案 |  |
| 686 | 00:25:24,095 --> 00:25:26,495 | 综合来讲就是赋能行业的基础 |  |
| 687 | 00:25:27,110 --> 00:25:29,055 | 同时也能提高行业的效率 |  |
| 688 | 00:25:29,349 --> 00:25:31,905 | 真正的把RISC-V的优势发到最大 |  |
| 689 | 00:25:34,081 --> 00:25:36,725 | 我希望我们现在可以在有朝一日 |  |
| 690 | 00:25:36,785 --> 00:25:39,906 | 能够真正成为一家伟大的平台公司 |  |
| 691 | 00:25:40,225 --> 00:25:43,625 | 真正的做到全行业的基础的赋能者 |  |
| 692 | 00:25:43,893 --> 00:25:45,285 | 这是我的一个示意图 |  |
| 693 | 00:25:45,805 --> 00:25:48,075 | 希望有朝一日我们实现我们这个的愿景 |  |
| 694 | 00:25:48,075 --> 00:25:49,525 | 真正的能够为本土 |  |
| 695 | 00:25:49,683 --> 00:25:52,245 | 全行业的赋能 |  |
| 696 | 00:25:52,410 --> 00:25:53,605 | 贡献我们的一份力量 |  |
| 697 | 00:25:56,271 --> 00:25:58,575 | 最后我想引用一句结语 |  |
| 698 | 00:25:58,575 --> 00:26:00,241 | 天下事有难易乎 |  |
| 699 | 00:26:00,399 --> 00:26:02,508 | 为之 则难者亦易 |  |
| 700 | 00:26:02,646 --> 00:26:04,095 | 不为 则易者亦难 |  |
| 701 | 00:26:04,495 --> 00:26:07,275 | 我们芯来科技起步如此的艰难 |  |
| 702 | 00:26:07,386 --> 00:26:08,574 | 起步如此之急 |  |
| 703 | 00:26:08,574 --> 00:26:10,092 | 条件如此艰苦 |  |
| 704 | 00:26:10,500 --> 00:26:12,180 | 我们做的赛道如此底层 |  |
| 705 | 00:26:12,540 --> 00:26:15,395 | 做的方向如此的有挑战 |  |
| 706 | 00:26:15,760 --> 00:26:18,260 | 着实是令人唏嘘不已 |  |
| 707 | 00:26:18,820 --> 00:26:21,285 | 但是我对我的团队们说 |  |
| 708 | 00:26:21,818 --> 00:26:23,550 | 想那么多做甚 |  |
| 709 | 00:26:23,550 --> 00:26:25,061 | 我们抓紧干就是了 |  |
| 710 | 00:26:25,363 --> 00:26:26,130 | 大家说是不是 |  |
| 711 | 00:26:27,135 --> 00:26:27,726 | 谢谢大家 |  |
| 712 | 00:26:27,809 --> 00:26:29,264 | 非常感谢大家的聆听 |  |