**该工程功能：**

* 读取sd卡里的文件，加载神经网络模型参数。
* DMA采集模拟数据，经行识别。

uint8\_t sd\_data\_bufer*[*512*]*;  
 memset*(*&sd\_data\_bufer,0,sizeof*(*sd\_data\_bufer*))*;  
*// SD\_HandleTypeDef \*hsd, uint8\_t \*pData, uint32\_t BlockAdd, uint32\_t NumberOfBlocks, uint32\_t Timeout* if*(*HAL\_SD\_ReadBlocks*(*&hsd,sd\_data\_bufer,0,1,10*)*==*HAL\_OK)  
 {* printf*(*"read the 0 block finished!"*)*;  
 *}* for *(*int i = 0; i < 512; ++i*) {* printf*(*"%x ",sd\_data\_bufer*[*i*])*;  
 *}*

“33 c0 fa 8e d8 8e d0 bc 0 7c 89 e6 6 57 8e c0 fb fc bf 0 6 b9 0 1 f3 a5 ea 1f 6 0 0 52 52 b4 41 bb aa 55 31 c9 30 f6 f9 cd 13 72 13 81 fb 55 aa 75 d d1 e9 73 9 66 c7 6 8d 6 b4 42 eb 15 5a b4 8 cd 13 83 e1 3f 51 f b6 c6 40 f7 e1 52 50 66 31 c0 66 99 e8 66 0 e8 35 1 4d 69 73 73 69 6e 67 20 6f 70 65 72 61 74 69 6e 67 20 73 79 73 74 65 6d 2e d a 66 60 66 31 d2 bb 0 7c 66 52 66 50 6 53 6a 1 6a 10 89 e6 66 f7 36 f4 7b c0 e4 6 88 e1 88 c5 92 f6 36 f8 7b 88 c6 8 e1 41 b8 1 2 8a 16 fa 7b cd 13 8d 64 10 66 61 c3 e8 c4 ff be be 7d bf be 7 b9 20 0 f3 a5 c3 66 60 89 e5 bb be 7 b9 4 0 31 c0 53 51 f6 7 80 74 3 40 89 de 83 c3 10 e2 f3 48 74 5b 79 39 59 5b 8a 47 4 3c f 74 6 24 7f 3c 5 75 22 66 8b 47 8 66 8b 56 14 66 1 d0 66 21 d2 75 3 66 89 c2 e8 ac ff 72 3 e8 b6 ff 66 8b 46 1c e8 a0 ff 83 c3 10 e2 cc 66 61 c3 e8 76 0 4d 75 6c 74 69 70 6c 65 20 61 63 74 69 76 65 20 70 61 72 74 69 74 69 6f 6e 73 2e d a 66 8b 44 8 66 3 46 1c 66 89 44 8 e8 30 ff 72 27 66 81 3e 0 7c 58 46 53 42 75 9 66 83 c0 4 e8 1c ff 72 13 81 3e fe 7d 55 aa f 85 f2 fe bc fa 7b 5a 5f 7 fa ff e4 e8 1e 0 4f 70 65 72 61 74 69 6e 67 20 73 79 73 74 65 6d 20 6c 6f 61 64 20 65 72 72 6f 72 2e d a 5e ac b4 e 8a 3e 62 4 b3 7 cd 10 3c a 75 f1 cd 18 f4 eb fd 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 cc 34 d 0 0 0 80 20 21 0 c fe ff ff 0 8 0 0 0 c0 da 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 55 aa”

正点原子例程读出来的数据：

33 c0 fa 8e d8 8e d0 bc 0 7c 89 e6 6 57 8e c0 fb fc bf 0 6 b9 0 1 f3 a5 ea 1f 6 0 0 52 52 b4 41 bb aa 55 31 c9 30 f6 f9 cd 13 72 13 81 fb 55 aa 75 d d1 e9 73 9 66 c7 6 8d 6 b4 42 eb 15 5a b4 8 cd 13 83 e1 3f 51 f b6 c6 40 f7 e1 52 50 66 31 c0 66 99 e8 66 0 e8 35 1 4d 69 73 73 69 6e 67 20 6f 70 65 72 61 74 69 6e 67 20 73 79 73 74 65 6d 2e d a 66 60 66 31 d2 bb 0 7c 66 52 66 50 6 53 6a 1 6a 10 89 e6 66 f7 36 f4 7b c0 e4 6 88 e1 88 c5 92 f6 36 f8 7b 88 c6 8 e1 41 b8 1 2 8a 16 fa 7b cd 13 8d 64 10 66 61 c3 e8 c4 ff be be 7d bf be 7 b9 20 0 f3 a5 c3 66 60 89 e5 bb be 7 b9 4 0 31 c0 53 51 f6 7 80 74 3 40 89 de 83 c3 10 e2 f3 48 74 5b 79 39 59 5b 8a 47 4 3c f 74 6 24 7f 3c 5 75 22 66 8b 47 8 66 8b 56 14 66 1 d0 66 21 d2 75 3 66 89 c2 e8 ac ff 72 3 e8 b6 ff 66 8b 46 1c e8 a0 ff 83 c3 10 e2 cc 66 61 c3 e8 76 0 4d 75 6c 74 69 70 6c 65 20 61 63 74 69 76 65 20 70 61 72 74 69 74 69 6f 6e 73 2e d a 66 8b 44 8 66 3 46 1c 66 89 44 8 e8 30 ff 72 27 66 81 3e 0 7c 58 46 53 42 75 9 66 83 c0 4 e8 1c ff 72 13 81 3e fe 7d 55 aa f 85 f2 fe bc fa 7b 5a 5f 7 fa ff e4 e8 1e 0 4f 70 65 72 61 74 69 6e 67 20 73 79 73 74 65 6d 20 6c 6f 61 64 20 65 72 72 6f 72 2e d a 5e ac b4 e 8a 3e 62 4 b3 7 cd 10 3c a 75 f1 cd 18 f4 eb fd 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 cc 34 d 0 0 0 80 20 21 0 c fe ff ff 0 8 0 0 0 c0 da 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 55 aa

添加printf重定向功能

CmakeLists.txt

Add

include\_directories*(*Core/Inc Drivers/STM32F1xx\_HAL\_Driver/Inc Drivers/STM32F1xx\_HAL\_Driver/Inc/Legacy Drivers/CMSIS/Device/ST/STM32F1xx/Include Drivers/CMSIS/Include  
 APP/utils  
 *)*

file*(*GLOB\_RECURSE SOURCES "startup/\*.\*" "Drivers/\*.\*" "Core/\*.\*"  
 "APP/utils/\*.\*"*)*

**syscalls.c**

**remove**

int \_close*(*int file*)  
{* return -1;  
*}*int \_fstat*(*int file, struct stat \*st*)  
{* st->st\_mode = **S\_IFCHR**;  
 return 0;  
*}*int \_isatty*(*int file*)  
{* return 1;  
*}*int \_lseek*(*int file, int ptr, int dir*)  
{* return 0;  
*}*

**遇到的问题**

1．主要是选择.cfg文件的问题：内容更改为：

set FLASH\_SIZE 0x80000  
source [find interface/stlink.cfg]  
transport select hla\_swd  
reset\_config srst\_only  
source [find target/stm32f1x.cfg]

