

zant

AI that works where the
Cloud can't

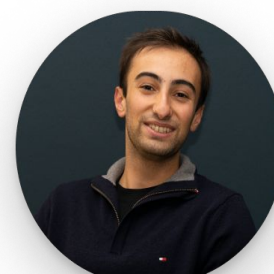
Origins...



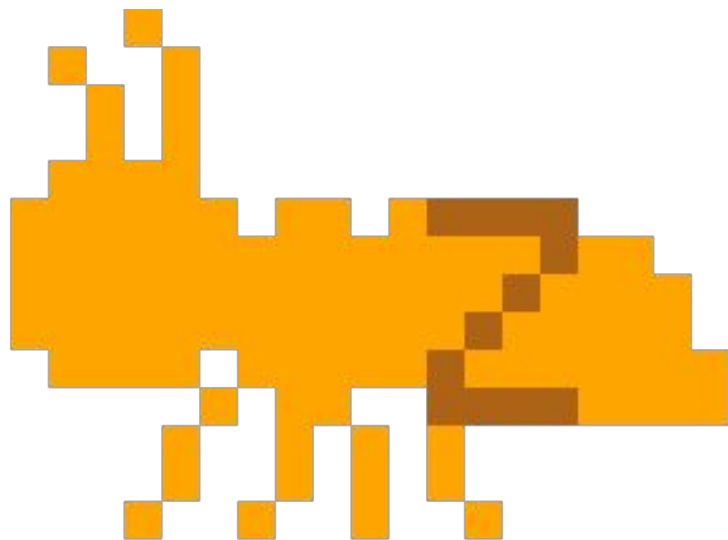
Mirko Calvi



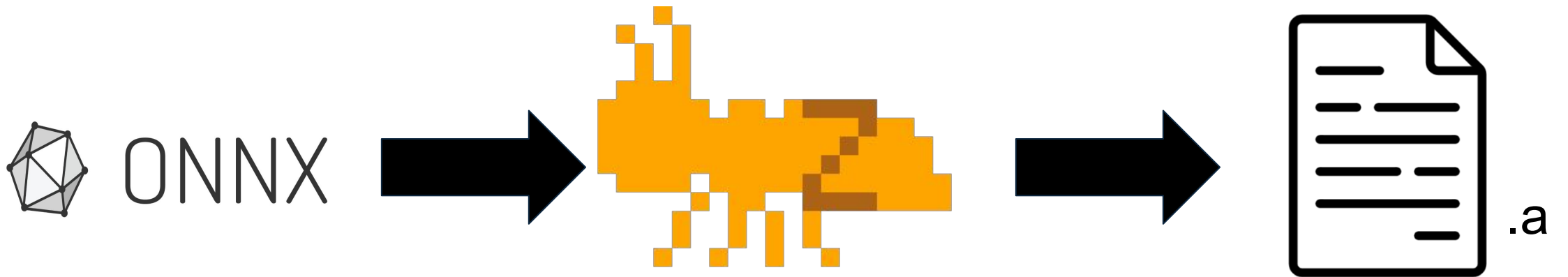
Marco De Vellis



Flavio Mancosu

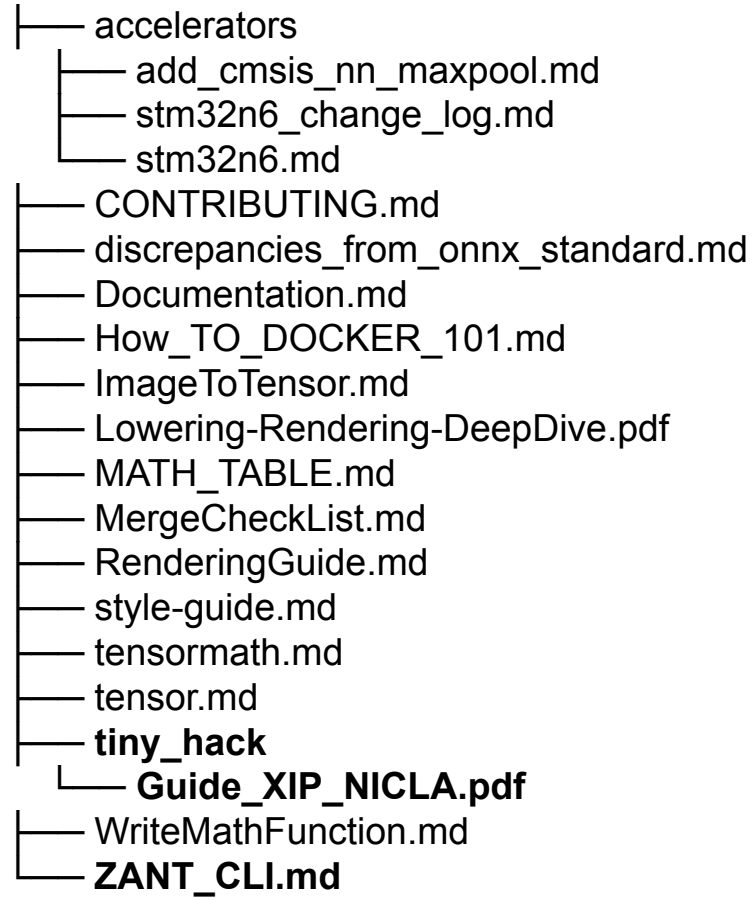


how to Zant

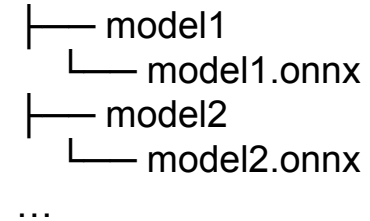


codebase structure

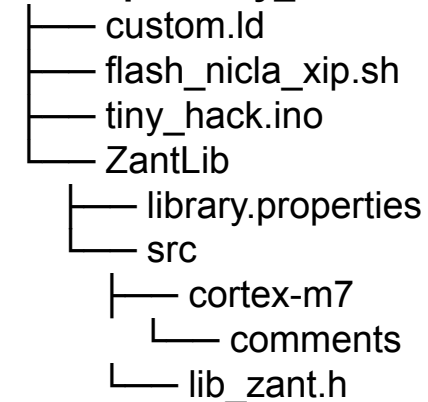
Z-Ant/docs



Z-Ant/datasets/models



Z-Ant/examples/tiny_hack



Zant CLI

Z-Ant/docs/ZANT_CLI.md

```
./zant input_setter --model my_model --shape 1,3,224,224
```

```
./zant user_tests_gen --model my_model
```

For testing, not mandatory

```
# --- GENERATING THE Single Node lib and test it ---
```

```
#For a N nodes model it creates N onnx models, one for each node with respective tests.
```

```
./zant onnx_extract --model my_model
```

```
#generate libs for extracted nodes
```

```
zig build extractor-gen -Dmodel="my_model"
```

```
#test extracted nodes
```

```
zig build extractor-test -Dmodel="my_model"
```

Zant CLI

Z-Ant/docs/ZANT_CLI.md

```
# --- GENERATING THE LIBRARY and TESTS ---
```

```
# Generate code for a specific model
```

```
zig build lib-gen -Dmodel="my_model" -Denable_user_tests [ -Dxip=true  
-Ddo_export -Dfuse -Dlog -Dcomm ... ]
```

```
# Test the generated code
```

```
zig build lib-test -Dmodel="my_model" -Denable_user_tests [ -Dfuse -Dlog  
-Dcomm ... ]
```

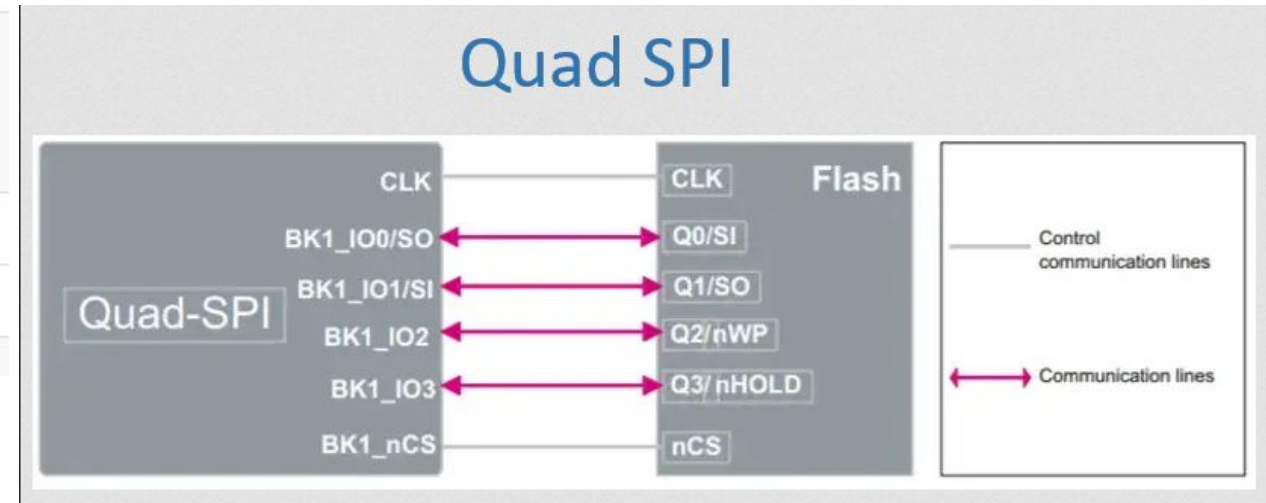
```
# Build the static library
```

```
zig build lib -Dmodel="my_model" -Dtarget=thumb-freestanding -Dcpu=cortex_m7
```

why -DXIP=true


Memory	
ST STM32H757AII6	2MB Flash, 1MB RAM
QSPI flash	16MB

<https://docs.arduino.cc/hardware/nicla-vision/#tech-specs>



```
./examples/tiny_hack/flash_nicla_xip.sh
```

Minimal Workflow

- read the D0Cs
- if you haven't read the D0Cs yet, please read the D0Cs !!!
- zig build lib-gen ...  ./create.sh
- zig build lib ...
- cp zig-out/myModel/libzant.a ~/Arduino/libraries/ZantLib/src/cortex-m7
- compile with arduino-cli (see **Guide_XIP_NICLA.pdf**)
- flash on the Nicla Vision: flash_nicla_xip.sh
- and remember... if in doubt... **read the Docs**

Chiamata da casa



- max 30 minutes
- book yourself at least 30 minutes before
- see availability on cal.com (link on telegram)

other tools

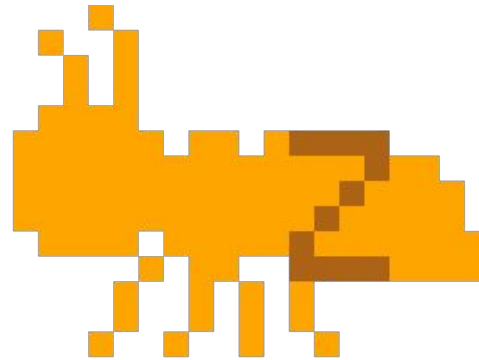
- Netron <https://netron.app/>



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Bug hunter

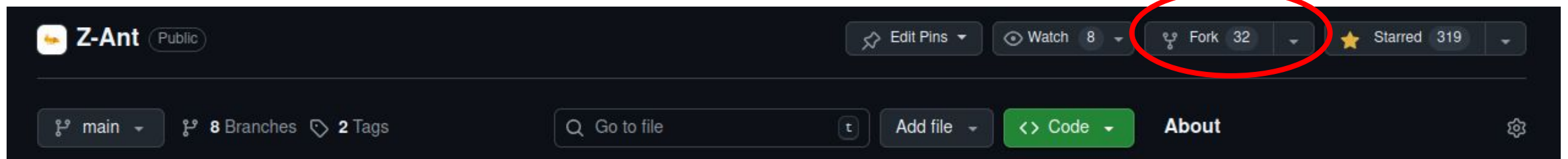
- fork from Zant Repo
- fix the bug
- open a PR



Mirko Calvi



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Thank you