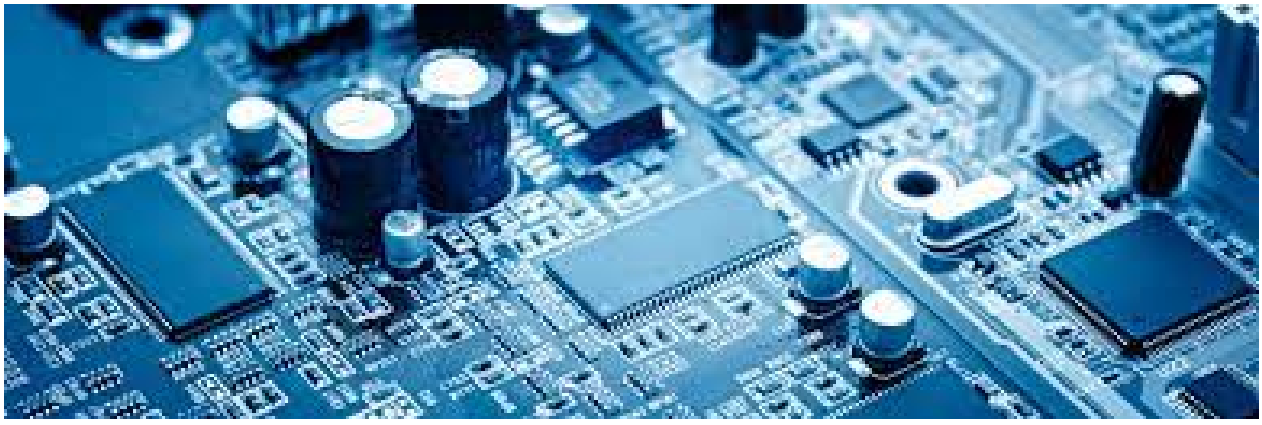
GOWIN GoAI 2.0 Machine Learning Interface User Guide

Contents

GoAI 2.0 Quick Start Guide



Prerequisite Software

- ARM Keil v5
- Gowin IDE or Gowin Programmer

How to Deploy Examples

1. Pull the following GoAI Github Repository. **https://github.com/gowinsemi/GoAI.git**
2. Navigate to the GoAI Board you are using and the example you wish to deploy under '*\SDK\win*'.
3. Navigate to the `*\bin\goai_run.bat' batch file and open in any text editor.
4. Update the file and program paths based on your machine.
   a) 'set tflite_model_file=' ← flatbuffers (*.tflite) file and path
   b) 'set gowin_programmer_path=' ← Gowin programmer path
   c) 'set keil_path=' ← Keil v5 IDE path
5. Once steps 1-4 are performed they do not need to be repeated. Plug in and turn on GoAI 2.0 board.
6. Open a command window by typing 'cmd' in the Windows search bar.
7. Navigate to directory containing the batch file. Type goai_run.bat and enter to run the batch file. Model and design will be compiled and loaded to the board automatically.

Retraining Models

- Gowin's public GoAI demos are based on the following TinyML book by Pete Warden and Daniel Situnayake. Detailed instructions on how to train models in Tensorflow and TFLu are available in this book. **https://www.oreilly.com/library/view/tinyml/9781492052036/**

Replacing Trained Model

- Models are trained, quantized and optimized into a Tensorflow Flatbuffers (*.tflite) file. This file contains all model details as well as weight and bias training coefficients. The Flatbuffers file can be replaced with an updated and retrained model you wish to deploy under `*\data\model\*`

GoAI Information

For more GoAI informationm, please refer to **https://www.gowinsemi.com/en/market/featured_detail/11/**
info@gowinsemi.com

Support and Feedback

- Gowin Semiconductor provides customers with comprehensive technical support. If you have any questions, comments, or suggestions, please feel free to contact us directly using the information presented below.
- Website: **www.gowinsemi.com**
- E-mail: **support@gowinsemi.com**

Revision History

Date	Version	Description
01/19/2021	1.0E	Initial version published.

Documents / Resources

	GOWIN GoAI 2.0 Machine Learning Interface [pdf] User Guide GoAI 2.0 Machine Learning Interface, GoAI 2.0, Machine Learning Interface

References

- support@gowinsemi.com
- Home|GOWIN Semiconductor
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- Home|GOWIN Semiconductor
- GitHub - gowinsemi/GoAI: GoAI 2.0 Public Repository
- GoAI 2.0| GOWIN Semiconductor
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- TinyML [Book] facebook-logo linkedin-logo youtube-logo