Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

LAIDLAW SCHOLARS

RADIONA ZAGREB MAKERSPACE

FPGAs for All.

GOAL: MAKE FPGA BOARDS MORE ACCESSIBLE

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What are FPGAs?

- "If the processor in your computer is designed to be good at all tasks. An FPGA can be programmed on a hardware electronic level to perform 1 singular task with great speeds!"

Why are the hard to get?

These hardware development boards are unaffordable for most starting developers. Creating a strained digital divide.

Due to geopolitical issues, trade secrets and scarce availability, these boards can be inaccessible.

Most leading companies in this space, keep their programs and development closed source and limited to their chips.

Achievements

- Developed Machine Learning resources, with the help of industry experts, for new hardware developers, contributing against the digital divide in this space.
- Designed and Implemented an image super resolution model on the ULX3s board, that made much more efficient use of electric and computation resources.

Who are Radiona?

A Croatian makerspace that promote innovation and creativity in the tech & arts space. Radiona designs and manufactures the ULX series FPGA boards that are much more **affordable** and **accessible**!

What did I do?

Project Goals:

1. Learn more about the ULX series boards and their open-source toolchain from professionals in the field in Zagreb.
2. Create materials to assist novice developers to be able to use and develop on this board, with a specific focus on neural networks.
3. Use an FPGA to implement a computer vision model to showcase the device's capabilities and provide novice developers some pointers.

TARGETED GLOBAL ISSUES
The *DIGITAL DIVIDE*
The growing *ENERGY CRISIS*
***EDUCATION* for all**