PhD Position in Electrical and Computer Engineering
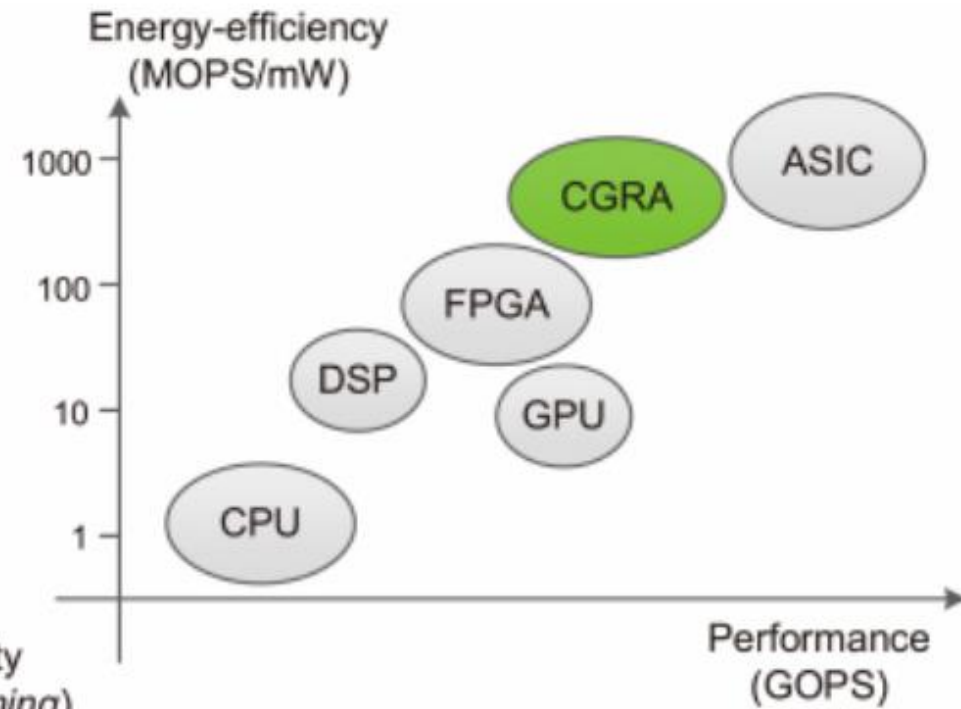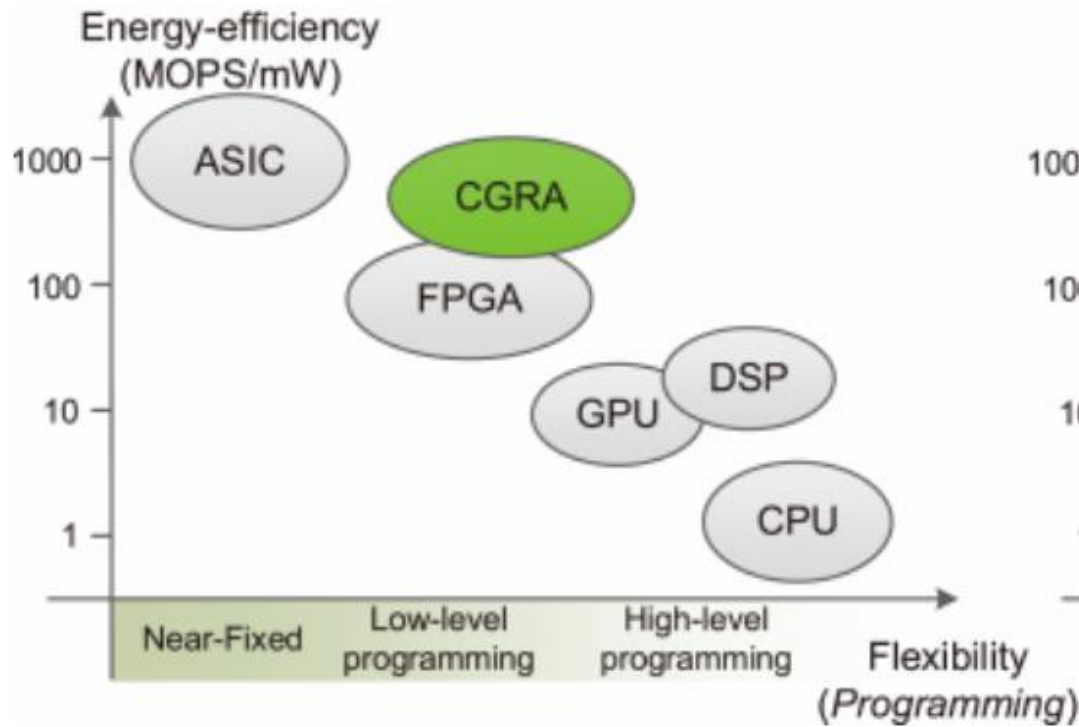
Behzad Joudat

25th January 2022

GPPs, GPUs ➡ Extremely low energy efficiency

CGRAs
- Near-ASIC energy efficiency and performance
- Post-fabrication software-like programmability

Neural Networks

Introduction

PhD Work

Versat

● Machine Learning -> Deep Learning algorithms -> Neural networks

● Used for:
- Learn independently and
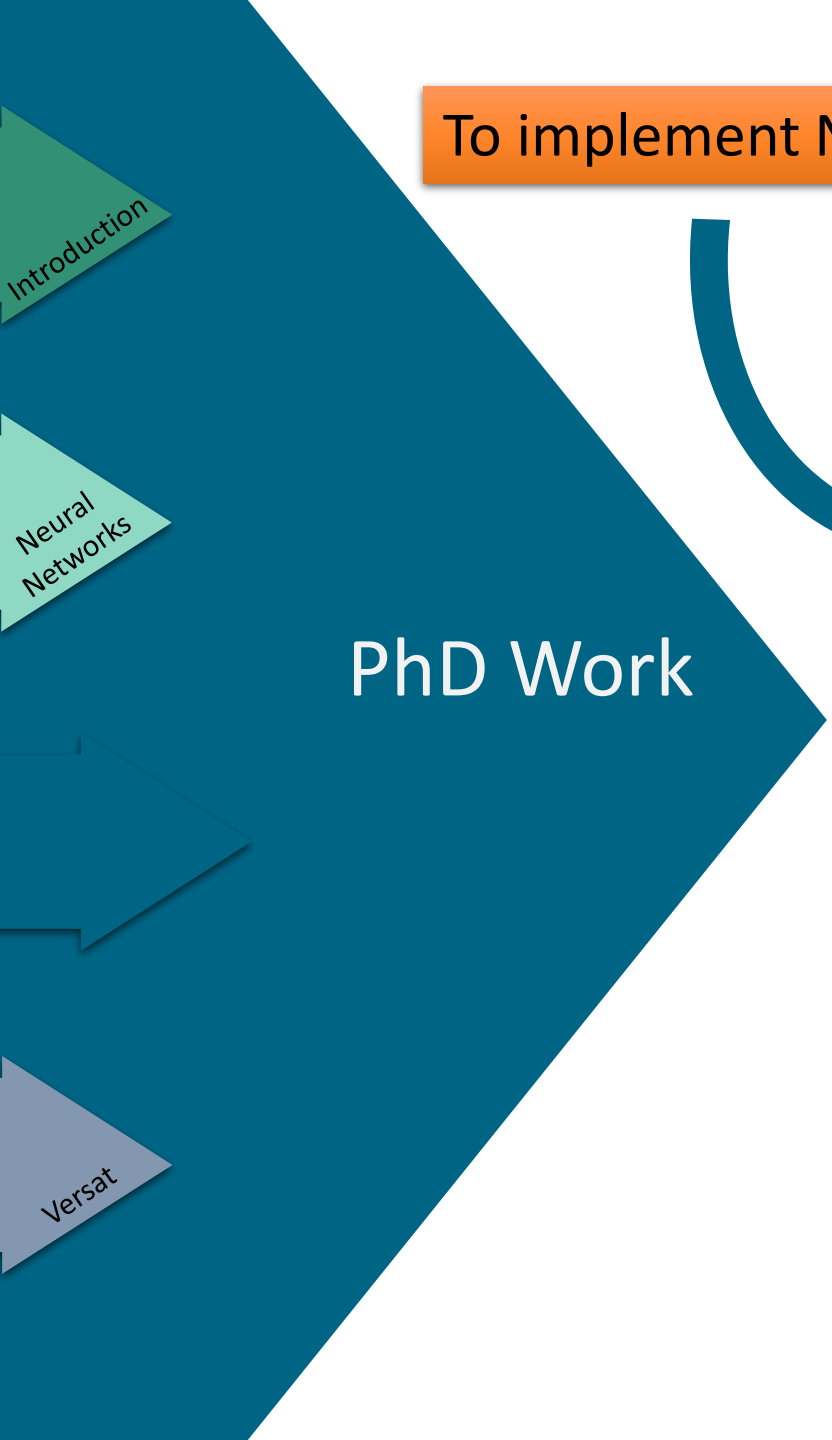- undertake tasks with little supervision

● Deep learning is well suited for:

- Computer Vision
- Speech Recognition
- Natural Language Processing
- Recommendation Engines

● RNN:
- Feedforward Neural Networks
- Variable length sequences of inputs

- Handwriting Recognition
- Speech Recognition

Introduction

Neural Networks

Versat

PhD Work

To implement NLP applications

Combine the CGRAs with RNN

Accelerate the processes by using Verilog

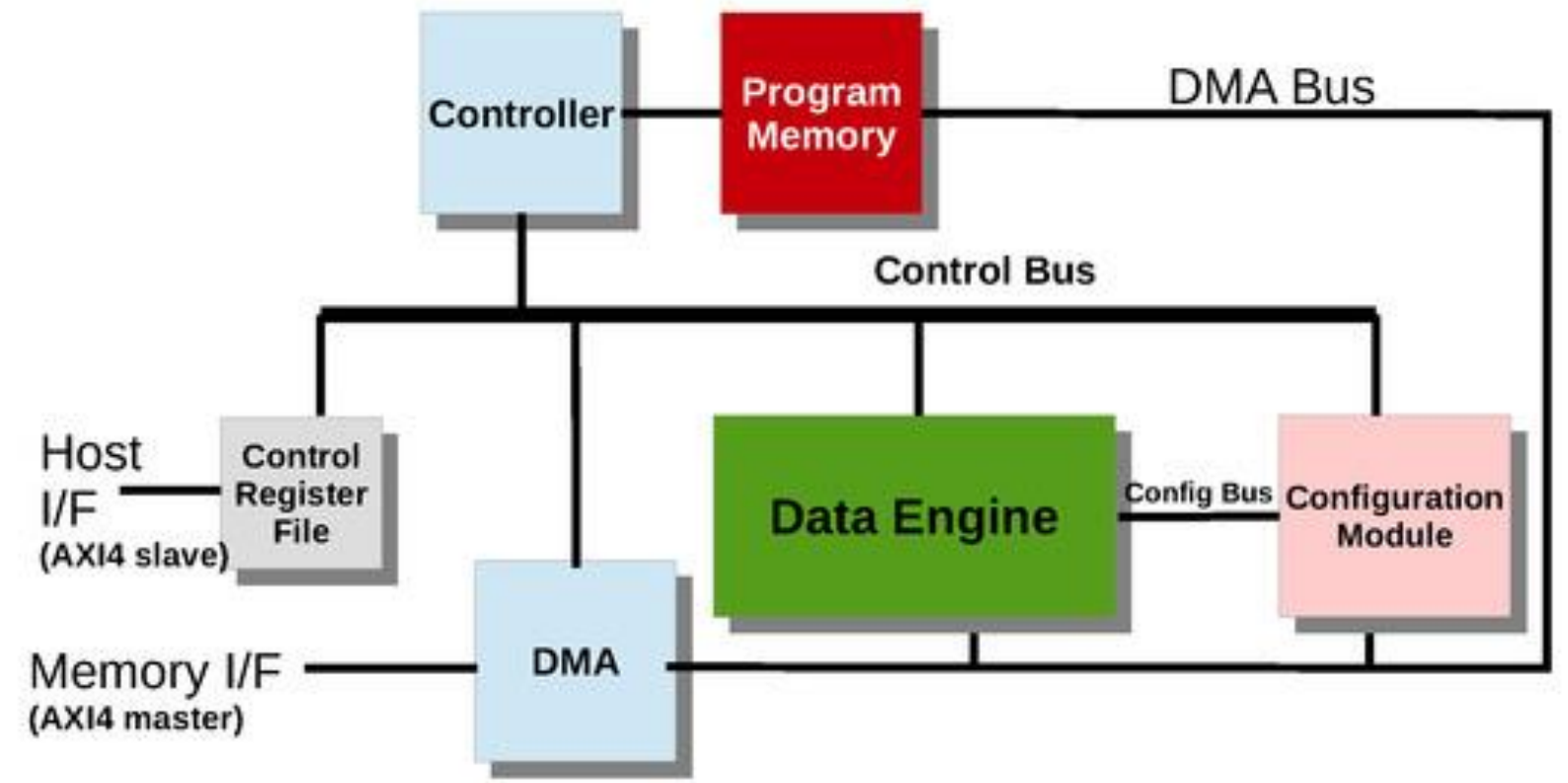Power efficiency, High performance

Privacy, Security, Availability

Work on a

T

Versat

Versat, a Coarse-Grained Reconfigurable Array (CGRA):

- Self-generated partial reconfiguration
- Generates and applies myriads of on-the-fly configurations

Thank you for your time