
1 Introduction

As mobile devices get more prevalent, the public tends to reassess their expectation in term of mobile services personalization. The data collected by mobile device’s sensors is an opportunity to gain insight into the mobile users profile and can, therefore, be used to personalize the mobile experience of a specific users. Recent advances in System-on-Chip architectures have made the use of deep learning suitable for a number of applications on mobile devices. Unfortunately, due to the computational cost of neural network training, it is often limited to inference task, e.g., prediction, on mobile devices. This project is supported by the laboratory of parallel processing at National Taiwan University and Academica.

2 Goal

In this project, we propose to develop a deep learning framework that enables both deep learning training and inference tasks on mobile devices. The current state-of-the-art unsupervised deep learning technique relies on Generative Adversarial Network. Our deep learning application will implement such architecture.

![Figure 1: The future of deep learning is on embedded device](image)

3 Skill

If you are interesting to learning about the state-of-the art deep learning technique and understand the optimization methods, such as weight quantization, to implement them on mobile device, this project is made for you. Feel free to contact us, we are currently recruiting at the following address: pangfeng.liu@gmail.com. The number of positions are limited.

Many world-class companies, such as Mediatek, are currently working on deep learning on embedded device. Don’t miss the chance to gain experience with these technologies, which will help you to make the difference in the job marketplace.