

# Master Thesis: Distinguish AI Bottlenecks with System Profiling on Different Edge Devices

AI has become ubiquitous in modern life, influencing various fields and industries in profound ways, such as healthcare, finance, transportation, retail, agriculture, customer service, security, and education. But AI applications are always bottlenecked by their application on edge devices. Thus with this thesis, we want to investigate into the bottlenecks via system performance evaluation.

## Tasks:

- Get familiar with the dataset distillation method and reproduce its result on images
- Perform system performance measurement on four different edge devices
- Distinguish the bottleneck and propose potential solutions
- Implement one of the potential solutions and evaluate its performance improvement on different edge devices

## Recommended knowledge and experience:

- Experience in programming with Python
- Experience in computer systems

## Benefits:

- Involve in the academic environment of the chair of Computer Architecture and Parallel Systems
- Research with new research topic dataset distillation
- Getting system performance perspectives on AI application

## Application:

If you are interested in this topic, get in contact with Dai Liu (find the contact details below) through email.

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