Tentative thesis title: Non-Volatile memory circuit-device applications

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Non-Volatile memory circuit-device applications

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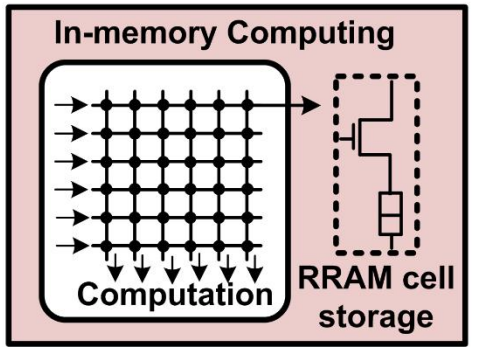
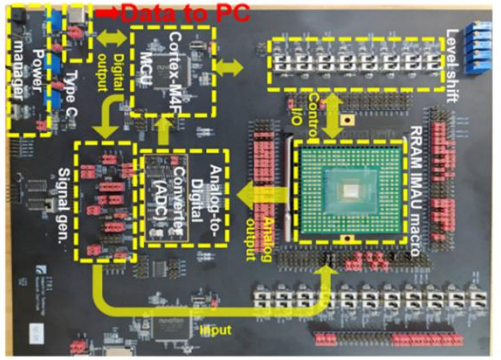
- Current status / stage of your JDP: Completed the required duration of stay at NYCU. Synopsis and thesis submission expected in next 6 months

- 4-5 brief bullet point describing your research work
- Design and implementation of efficient and accurate accelerators for deep neural networks (DNNs)
- Resistive RAM (RRAM) array is exploited to map DNN on-chip and perform floating-point acceleration for DNNs
- Spin-orbit torque (SOT) MRAM devices are exploited to implement energy efficient binary neural network acceleration.
- Spiking neuron model proposed and implemented in hardware using RRAM for accurate recurrent spiking neural networks

Thematic Photo/Diagram that best describes your research theme

In-memory computing based Deep Neural Network (DNN) acceleration





How useful is this collaboration for your PhD?

Participating in this joint degree program was an enriching experience, blending technical excellence with cultural immersion. The access to state-of-the-art lab facilities helped me to delve deeper into my research interests, while the mentorship of expert researchers enriched my understanding of the field. I believe that this collaborative program has the potential to unlock a range of career paths for future students, bridging the gap between industry and academia.

Your Photo (In the JPG/PNG format as a separate attachment with the email) regarding your stay/experience at NYCU. (May be at NYCU lab/Synopsis/
Work shop or conference presentation
with the title and brief description (not more than 2-3 sentences)