Architectural Approach on Approximate Computing for Media Processing

Yuko Hara-Azumi^{†‡}, Hisashi Osawa[†], Tanvir Ahmed[†]

†Tokyo Institute of Technology, Japan ‡JST PRESTO Email: {hisashi, tanvira, hara}@cad.ce.titech.ac.jp

Abstract—This talk presents our recent work on approximate computing-aware architecture. Leveraging the fact that some emerging applications are tolerant to computational errors to some extent, our work employs the new computational paradigm, Approximate Computing, which aggressively lessens computational complexity by adopting approximation, at the architectural level for the sake of performance improvement and energy reduction. In this talk, we show our approach of extending existing data management techniques for media processing applications.