

## KEYNOTE TALK I

**13:10-13:50, September 25**

### **AI Computing Trends for Mobile Processor Design**

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#### **Abstract:**

Large-language models (LLMs) have achieved remarkable performance in many AI applications, but they require large parameter sizes in their models. The parameter sizes range from several billion to a trillion parameters, resulting in huge computation requirements for both training and inference.

Recently, there is a trend to run smaller LLMs (near or less than 10 billion parameters) on edge devices, especially for smartphones and PCs. Even though LLM model sizes are reduced, they still require more computing resources than previous mobile processor workloads and face challenges in memory size, bandwidth, and power efficiency requirements.

These trends will shape future computing architecture design and impact the semiconductor technology development. We will discuss these issues, especially mobile processor design in the generative AI era.

#### **CV:**

Dr. Bor-Sung Liang is currently a Senior Director, Corporate Strategy & Strategic Technology, MediaTek, and a Director of the Board, MediaTek Foundation. He is also concurrently serving as a Visiting Professor at Department of Computer Science and Information Engineering, EECS and GSAT in National Taiwan University, as well as a Visiting Professor at College of Electrical and Computer Engineering in National Yang Ming Chiao Tung University. He is also the Chair of IEEE CASS (Circuits and Systems Society) Taipei Chapter. He received his Ph.D degree from Institute of Electronics, National Chiao Tung University, and graduated from EMBA, College of Management, National Taiwan University.

Dr. Liang received several important awards, such as Ten Outstanding Young Persons, Taiwan; National Invention and Creation Award (one Gold Medal and two Silver Medals); Outstanding Youth Innovation Award of Industrial Technology Development Award; Outstanding ICT Elite Award; and K. T. Li Young Researcher Award.