

---

# Two-layer Generalization Analysis for Ranking Using Rademacher Average

---

**Wei Chen\***  
Chinese Academy of Sciences  
chenwei@amss.ac.cn

**Tie-Yan Liu**  
Microsoft Research Asia  
tyliu@microsoft.com

**Zhiming Ma**  
Chinese Academy of Sciences  
mazm@amt.ac.cn

There is a typo in the third discussion in Section 4.2. The correct optimization problem is as follows:

$$\begin{aligned} \min_{n, m_1, \dots, m_n} \quad & D(l \circ \mathcal{F}, n) + \sqrt{\frac{2M^2 \log \frac{4}{\delta}}{n}} + \frac{1}{n} \sum_{i=1}^n D(l \circ \mathcal{F}, \lfloor \frac{m_i}{2} \rfloor) + \sqrt{\sum_{i=1}^n \frac{2M^2 \log \frac{4}{\delta}}{m_i n^2}} \\ \text{s.t.} \quad & \sum_{i=1}^n m_i = C \end{aligned}$$

The optimum is obtained based on the above correct one, and will not be influenced.

---

\*The work was performed when the first author was an intern at Microsoft Research Asia.