

# Homework #6

## ■ Homework (Due date : November 15, 2023 4:00 PM)

- Implement Gauss-Newton's and LM (Levenberg-Marquardt) for the following models and the given observations:
  - Model 1:  $\varphi(a, b, c, d; x, y, z) = ax + by + cz + d$
  - Model 2:  $\varphi(a, b, c, d; x, y, z) = \exp(-[(x - a)^2 + (y - b)^2 + (z - c)^2]/d^2)$
  - Observation data is available at the class homepage.
- You should determine unknown parameters  $a$ ,  $b$ ,  $c$ , and  $d$  in the least square sense.