

Residual Networks

CS 4277 Deep Learning

Kennesaw State University

Residual Networks

- ▶ Conv nets improve by adding more layers, but only to a point

Sequential Processing

Recall that a 3-layer network can be defined by:

$$\mathbf{h}_1 = \mathbf{f}_1(\mathbf{x}, \phi_1)$$

$$\mathbf{h}_2 = \mathbf{f}_2(\mathbf{h}_1, \phi_2)$$

$$\mathbf{h}_3 = \mathbf{f}_3(\mathbf{h}_2, \phi_3)$$

$$\mathbf{y} = \mathbf{f}_4(\mathbf{h}_3, \phi_4)$$

where each ϕ_k is composed of the weights, Ω , and biases, β in Layer k .