

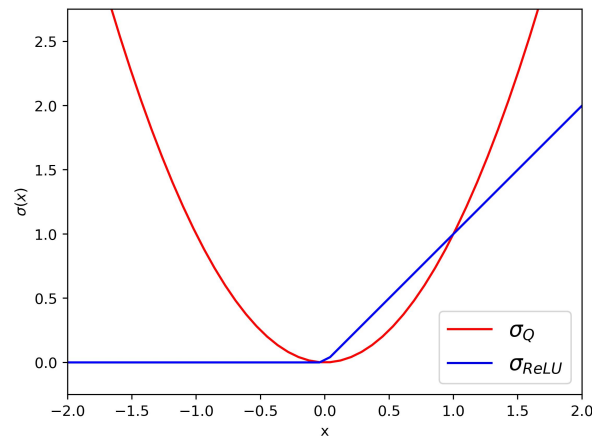
On the Learning Dynamics of Two-layer Quadratic Neural Networks for Understanding Deep Learning

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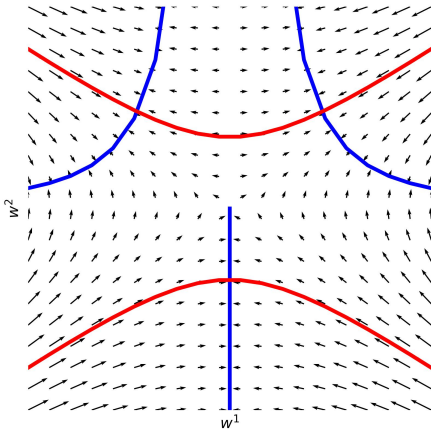
Problems & Ideas

- Problems of the learning dynamics of two-layer non-linear neural networks
 - The asymptotic and(or) non-asymptotic learning behavior of gradient methods
- Ideas: Using ordinary differential equations
 - Using the quadratic activation to capture non-linearity
 - Taking continuous-time limit to obtain the learning dynamical system



Main Contributions

- The gradient field of parameters



- The learning phases of QNN

