

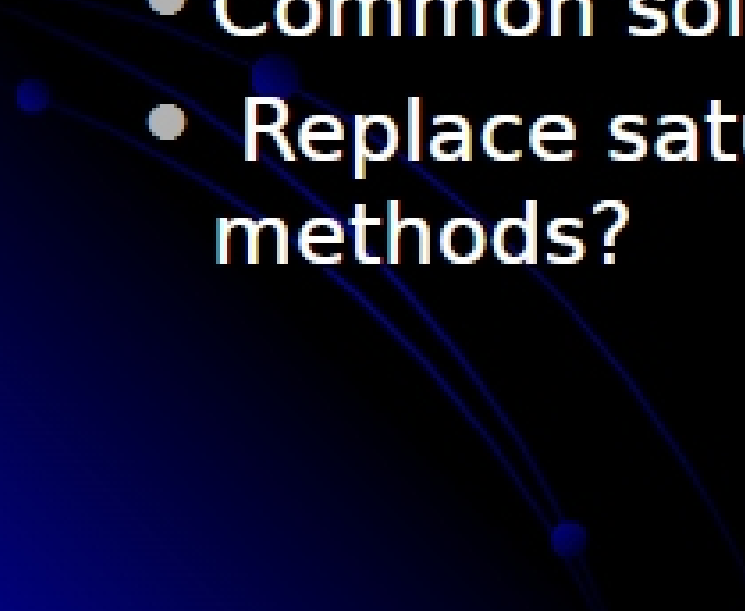
# Branch Prediction using Advanced Neural Methods

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CS252 Project



# Introduction

- **Dynanmic Branch Prediction**
    - No doubt about its importance in Speculation performance
    - Given history of branch behaviors, predict branch behaviors at the next step
    - Common solutions: gshare, bimode, hybrid...
    - Replace saturating counters with neural methods?
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# Neural methods

- Capable of classification (predicting into which set of classes a particular instance will fall)
- Learns correlations between inputs and output, and generalized learning to other inputs
- Potential to solve problems of most two-levels predictors