

University of Central Florida
Department of Computer Science
CDA 5106: Fall 2023
November 20, 2023
Machine Problem 2: Branch Prediction

by

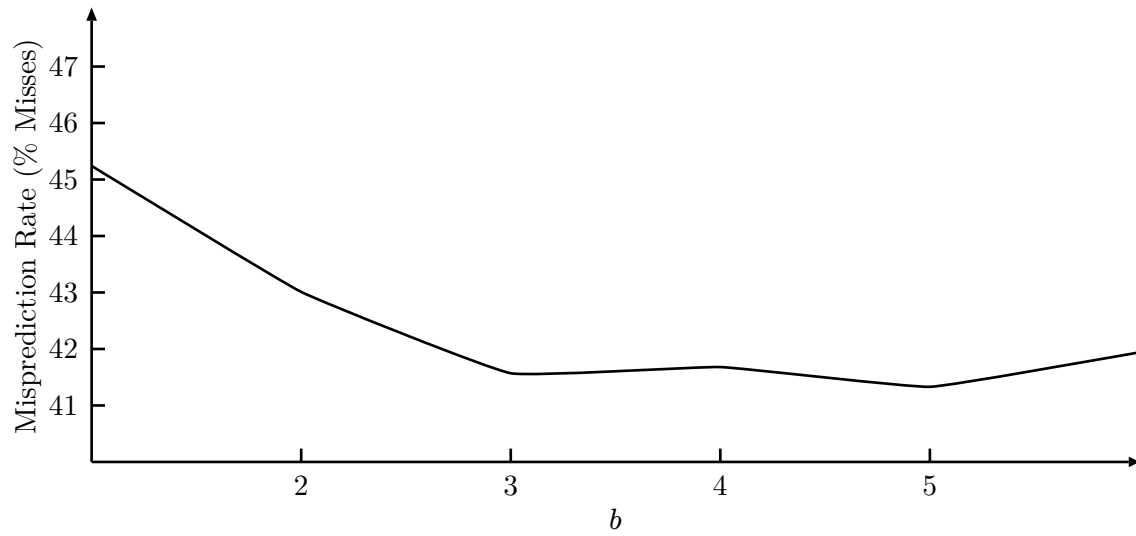
Andey Taylor Robins

Honor Pledge: “I have neither given nor received unauthorized aid on this test or assignment.”

Student’s electronic signature: Andey Taylor Robins

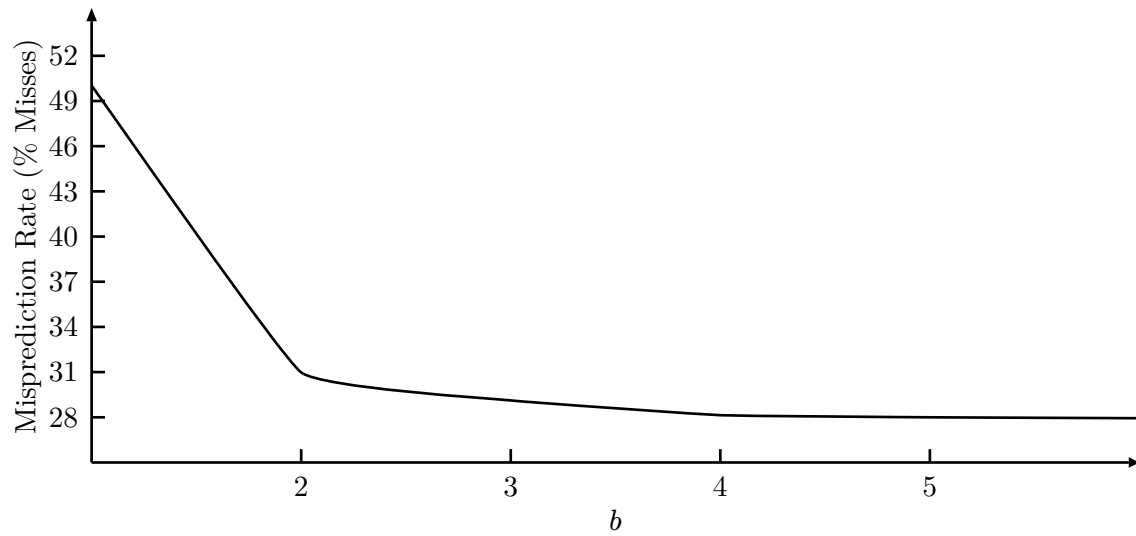
1. Smith Predictor Performance

1.1. GCC, Smith



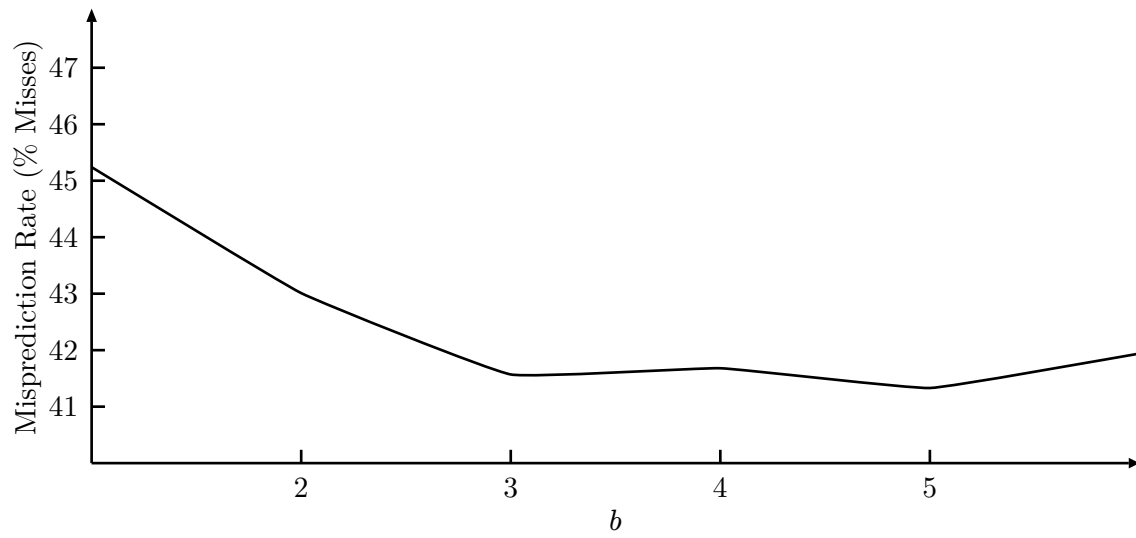
Graph 1: Relation between b and mispredictions

1.2. JPEG, Smith



Graph 2: Relation between b and mispredictions

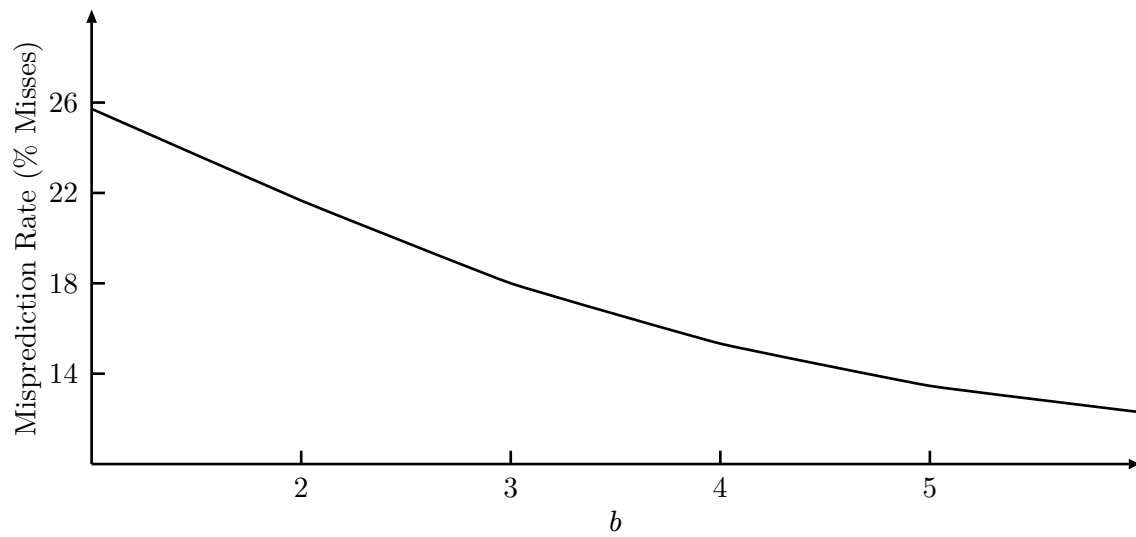
1.3. PERL, Smith



Graph 3: Relation between b and mispredictions

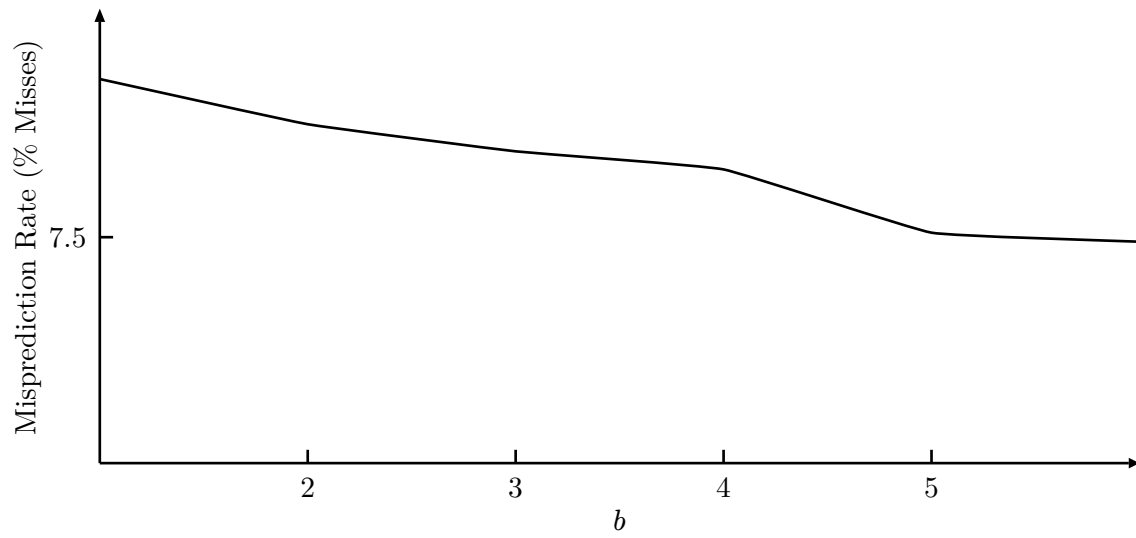
2. Bimodal Predictor Performance

2.1. GCC, Bimodal



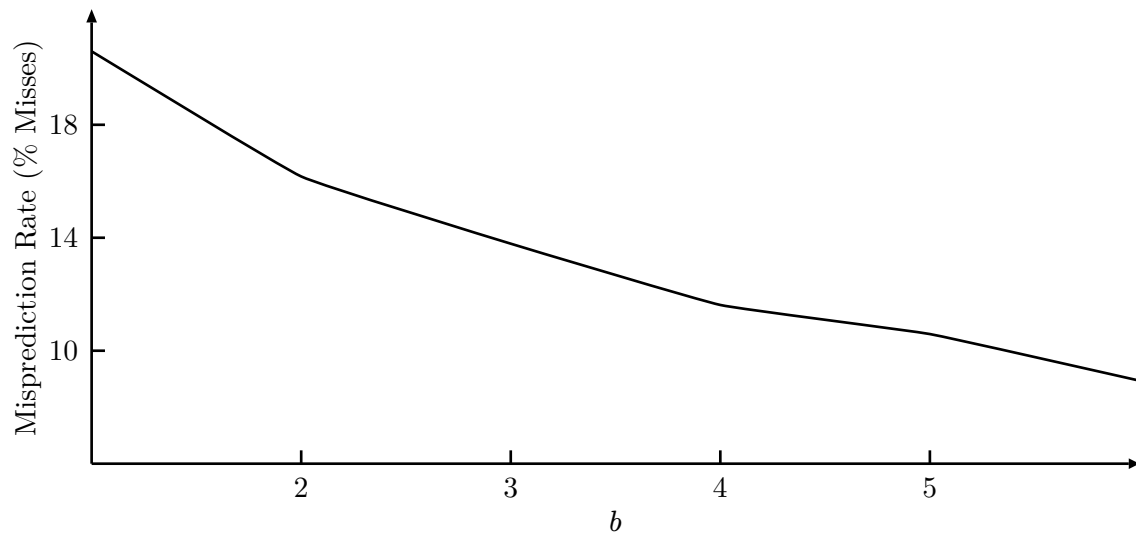
Graph 4: Relation between b and mispredictions

2.2. JPEG, Bimodal



Graph 5: Relation between b and mispredictions

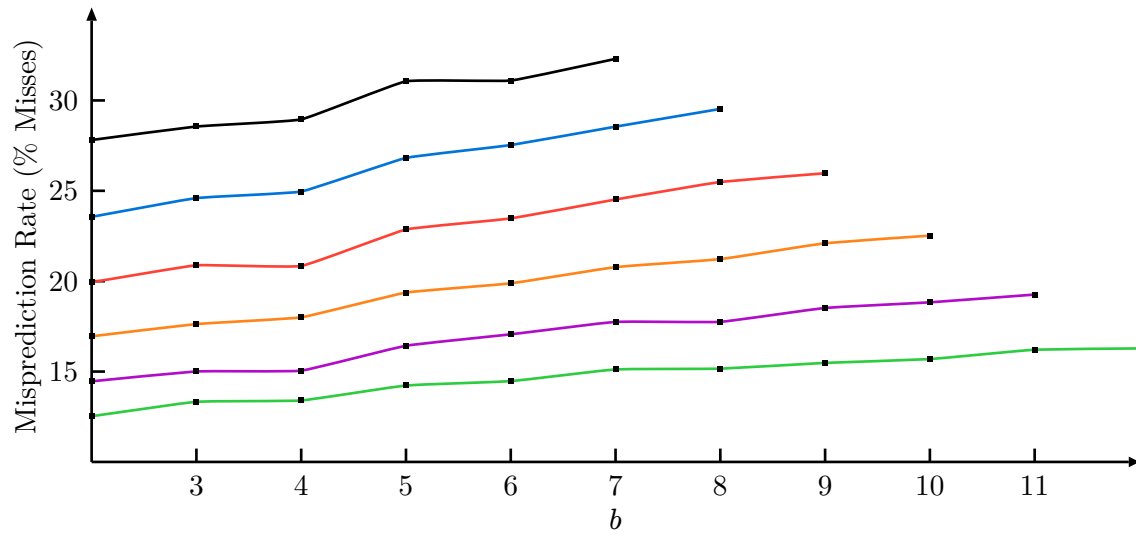
2.3. PERL, Bimodal



Graph 6: Relation between b and mispredictions

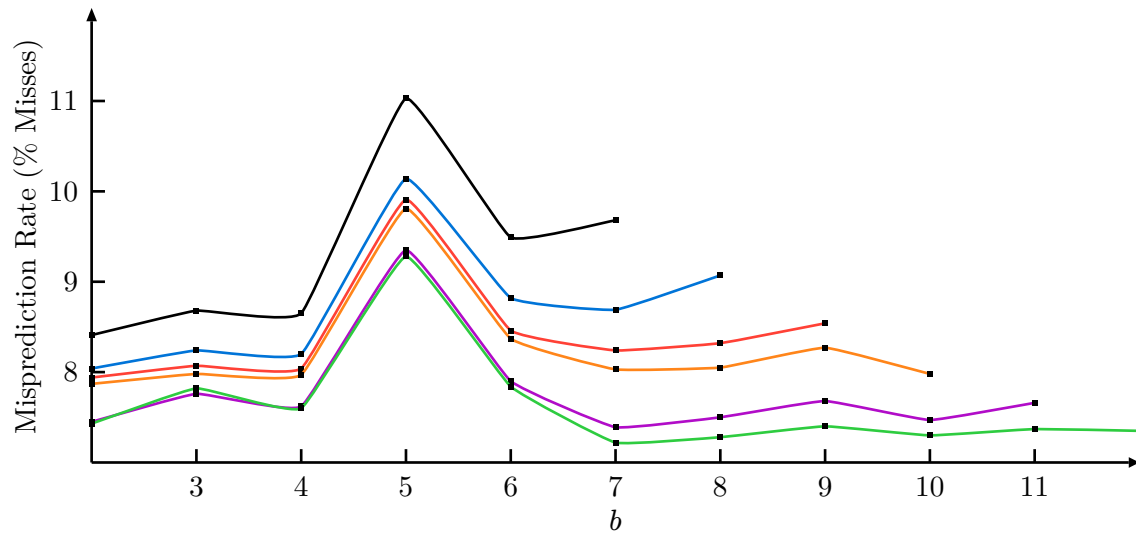
3. Gshare Predictor Performance

3.1. GCC, Gshare



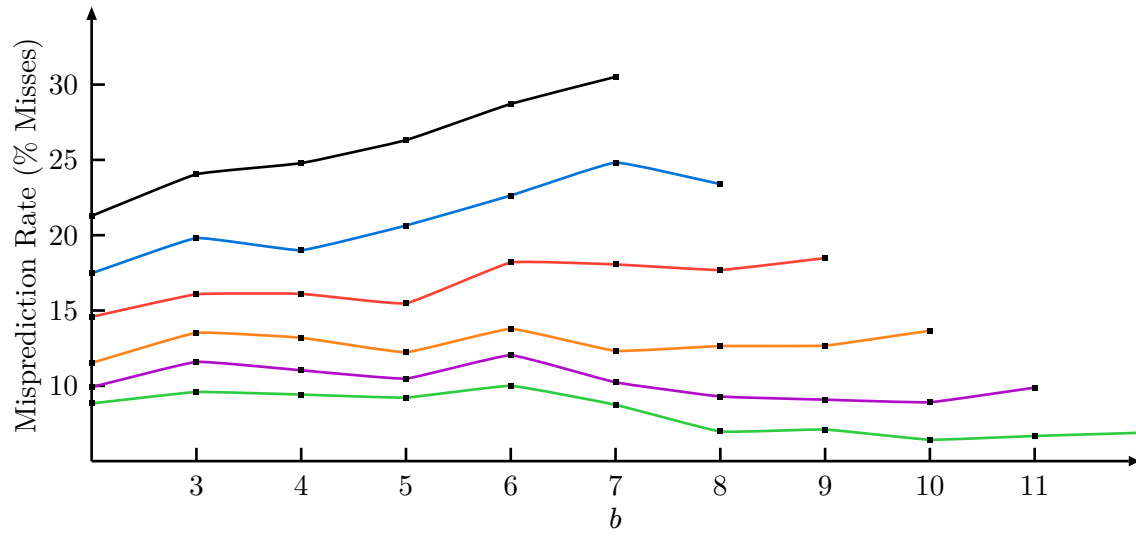
Graph 7: Relation between b and mispredictions

3.2. JPEG, Gshare



Graph 8: Relation between b and mispredictions

3.3. PERL, Gshare



Graph 9: Relation between b and mispredictions