

# Comparison of Frank-Wolfe Variants for White-Box Adversarial Attacks

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## 1 Introduction

What are Adversarial attacks  
Problem statement  
Type of Norms

## 2 Algorithms

### 2.1 Frank-Wolfe

### 2.2 Pairwise Frank-Wolfe

### 2.3 Away-Step Frank-Wolfe

## 3 Results

Introduce Datasets

### 3.1 Momentum

### 3.2 LMO vs. Linesearch

I really don't want to implement linesearch. As it is a waste of time when LMO is cheap but if we need easy content we can do this section.

### 3.3 $\epsilon$ Choice

Create plot showing how accurate attacks are with different  $\epsilon$  constraints.

## 4 Convergence Analysis

### 4.1 Frank-Wolfe

### 4.2 Pairwise Frank-Wolfe

### 4.3 Away-Step Frank-Wolfe