

Your Presentation

You

Where You're From

Date of Presentation

Introduction

- ▶ Your introduction goes here!
- ▶ Use `itemize` to organize your main points.

Examples

Some examples of commonly used commands and features are included, to help you get started.

Tables and Figures

1. Use `tabular` for basic tables — see Table 3, for example.
2. You can upload a figure (JPEG, PNG or PDF) using the files menu.
3. To include it in your document, use the `includegraphics` command (see the comment below in the source code).

Table : An Example table

Apples	1	2
Oranges	3	4

Readable Mathematics

Let X_1, X_2, \dots, X_n be a sequence of independent and identically distributed random variables with $E[X_i] = \mu$ and $\text{Var}[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \dots + X_n}{n} = \frac{1}{n} \sum_i^n X_i$$

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.

Slide 1

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Goal

Main goal that we want to prove.

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- ▶ **Something.**

Slide 1

Goal

Main goal that we want to prove.

- ▶ Something.
- ▶ Something more.

Slide 1

Goal

Main goal that we want to prove.

- ▶ Something.
- ▶ Something more.
- ▶ and more!.

Slide 1

Goal

Main goal that we want to prove.

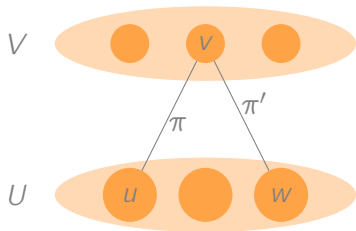
- ▶ **Something.**
- ▶ **Something more.**
- ▶ **and more!.**

Relaxed Goal

relaxation

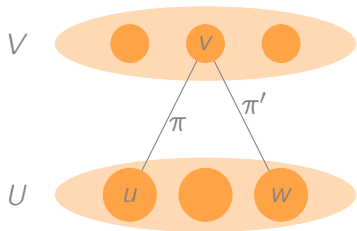
NAE PCP Verifier from Label Cover

using Long Code Reduction

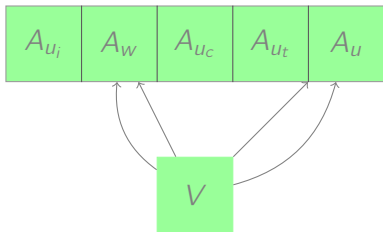


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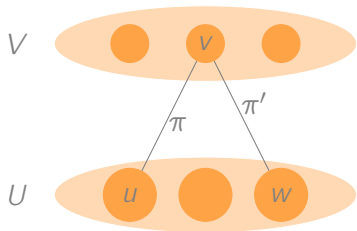


$$A_u : (\mathbb{F}_2)^{\mathbb{F}_2^{3r}} \rightarrow \mathbb{F}_2$$

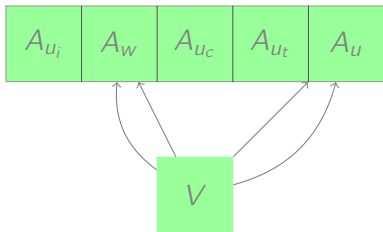


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$$A_u : (\mathbb{F}_2)^{\mathbb{F}_2^{3r}} \rightarrow \mathbb{F}_2$$



► Query

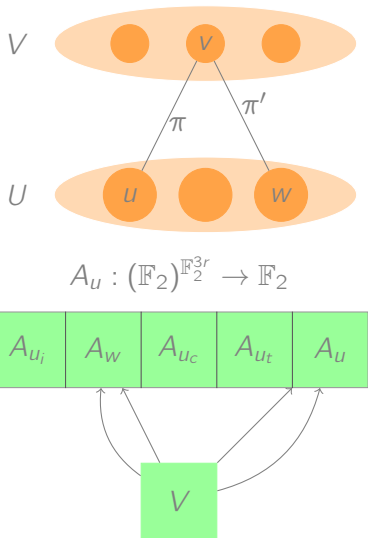
1. $A_u(e), A_u(e + f \circ \pi + 1 + \eta)$
2. $A_w(e'), A_w(e' + f \circ \pi' + \eta')$

► Where

1. $e, e' : \mathbb{F}_2^{3r} \rightarrow \{0, 1\}$,
 $f : \mathbb{F}_2^r \rightarrow \{0, 1\}$
2. η, η' from noise distribution.

NAE PCP Verifier from Label Cover

using Long Code Reduction



► Query

1. $A_u(e), A_u(e + f \circ \pi + 1 + \eta)$
2. $A_w(e'), A_w(e' + f \circ \pi' + \eta')$

► Where

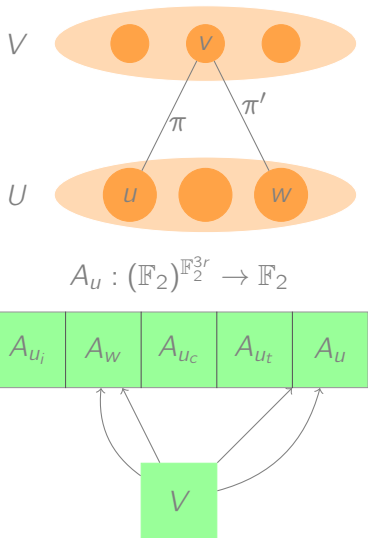
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- Correct proofs are Long Code encodings of labels to U given by

$$A_u = (f(a))_{f \in (\mathbb{F}_2)^{\mathbb{F}_2^{3r}}}$$

NAE PCP Verifier from Label Cover

using Long Code Reduction



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Bottleneck! : Proof size is $2^{2^{3r}} n^r$.
Cannot go beyond $r = O(\log \log n)$.