



Understanding current text generation techniques

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Contents

- ▶ Why inequalities?
- ▶ Used in: almost everywhere..



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- ▶ Why inequalities?
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 - ▶ Approximation Algorithms
 - ▶ Optimization
 - ▶ (Can almost be called the backbone of mathematics..)



Inequality 2: Use blue fact

Facts

- ▶ $\sum_{v \in V} d(v) = 2|A|$
- ▶ $\sum_{v \in V} i(v) = |A|$
- ▶ Have: $\sum_{v \in V} d(v) \cdot \frac{i(v)}{d(v)} = |A|$
- ▶ Want to have: $\sum_{v \in V_1} d(v) \geq |A|/3.$



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- ▶ Separate out the vertices as $v \in V_1$ and $v \in V \setminus V_1$.
- ▶ For $v \in V \setminus V_1$, $i(v)/d(v) < 1/3$. For $v \in V_1$, $i(v)/d(v) \leq 1$.
- ▶ $|A| = \sum_{v \in V} d(v) \cdot \frac{i(v)}{d(v)} \leq \sum_{v \in V_1} d(v) + \sum_{v \in V \setminus V_1} d(v)/3$



THANK YOU