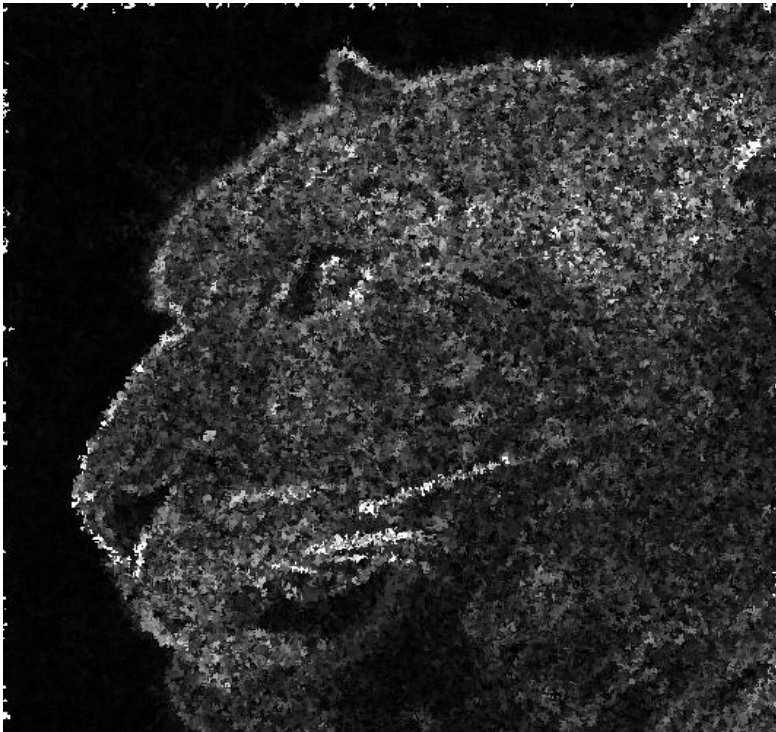
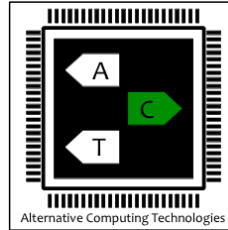


AXGAMES: Towards Crowdsourcing Quality Target Determination in Approximate Computing

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Georgia Institute of Technology



Is this approximate output
Good Enough?

Who should decide?

Programmer? Users?

Crowd!

Survey

Strongly agree

Agree

Disagree

Strongly disagree

VS

Game



Survey

Strongly agree
Agree
Disagree
Strongly disagree

Game

VS



Survey

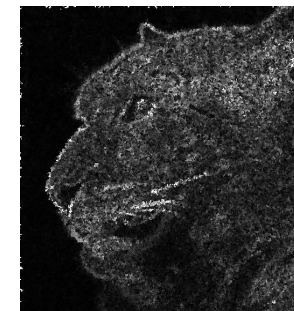
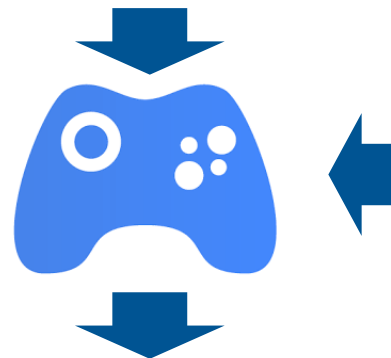
Strongly agree
Agree
Disagree
Strongly disagree

Game

VS



AXGAMES



$$\Gamma \chi \Sigma \mu \lambda \left(\frac{1}{1 + \frac{(n_{\text{trials}} - n_{\text{success}} + 1)}{n_{\text{success}} \times F[1 - \alpha; 2n_{\text{success}}, 2(n_{\text{trials}} - n_{\text{success}} + 1)]}} < \text{SuccessRate} \right)$$

Statistical Common Ground

Survey

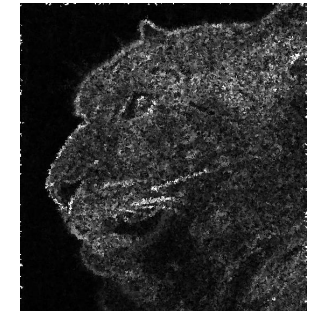
Strongly agree
Agree
Disagree
Strongly disagree

VS

Game

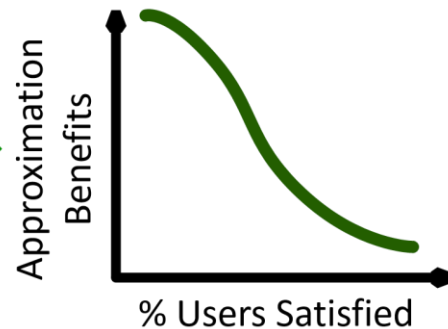
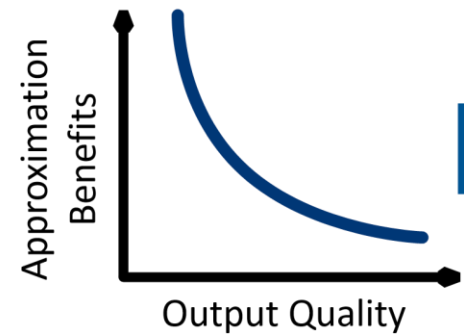


AXGAMES



Transforming the tradeoff
in approximate computing

$$\Gamma \chi \Sigma \mu \lambda \left(\frac{1}{1 + \frac{(n_{\text{trials}} - n_{\text{success}} + 1)}{n_{\text{success}} \times F[1 - \alpha; 2n_{\text{success}}, 2(n_{\text{trials}} - n_{\text{success}} + 1)]}} < \text{SuccessRate} \right)$$



Statistical Common Ground