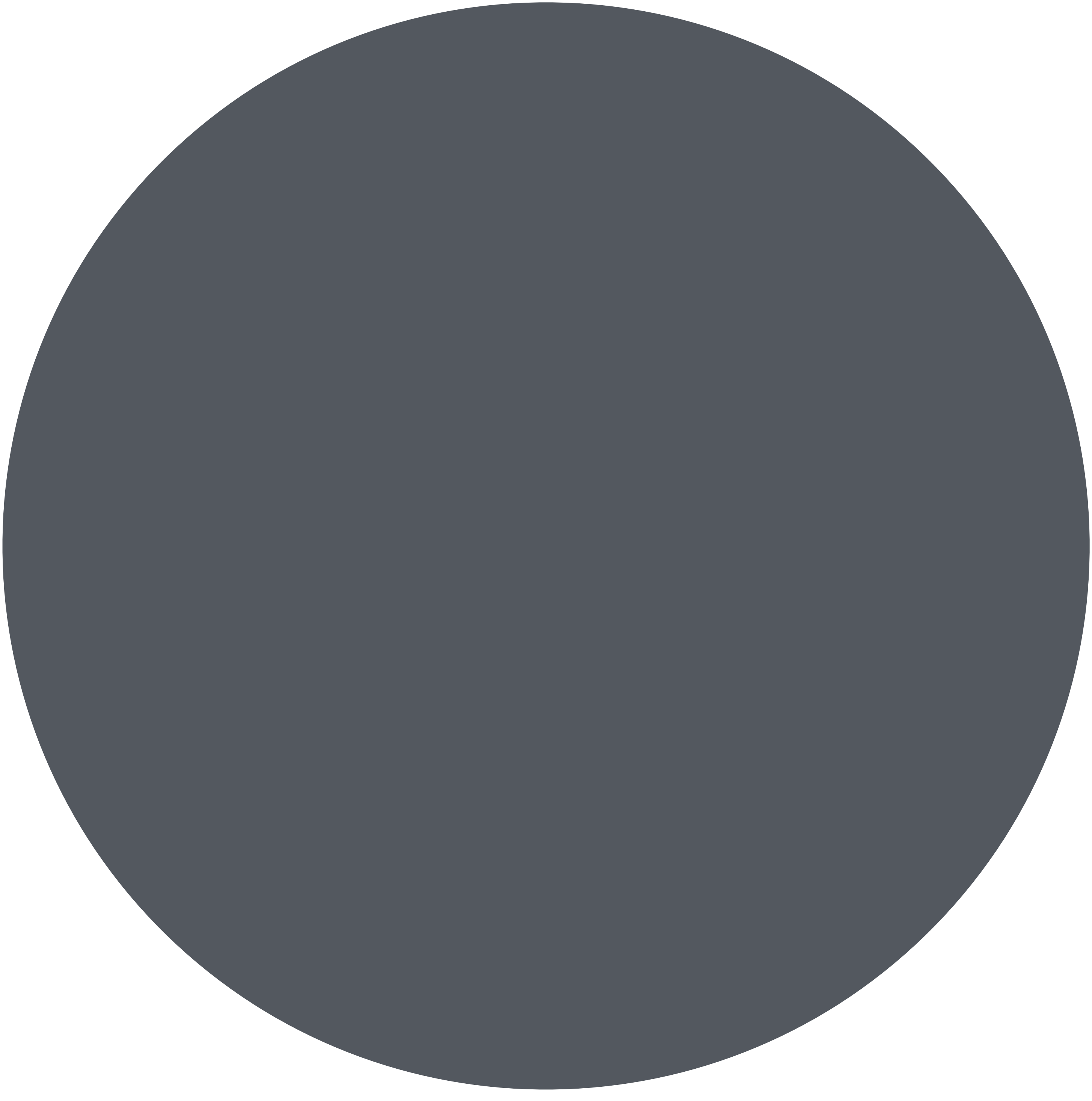
ADVERSARIAL MACHINE LEARNING

TIMELINE

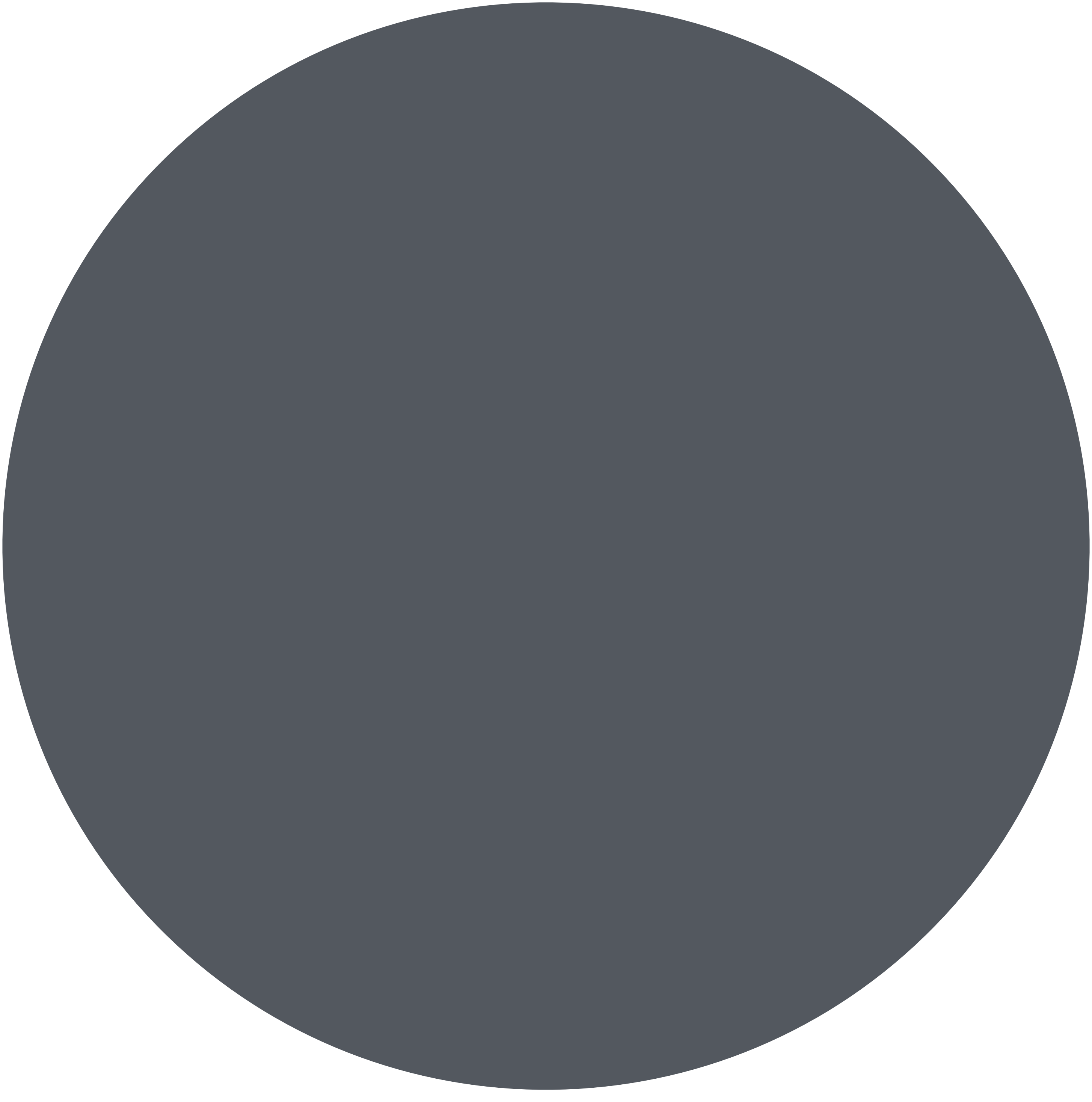
29



2004

2013

2014



2015

2016

FOOLING THE SPAM FILTER

FIRST ATTEMPT TO FOOL A NEURAL NET

IMPERCEPTIBLE ADVERSARIAL EXAMPLES

2017

ADVERSARIAL TRAINING AS DEFENCE

DEFENSIVE DISTILLATION

ADVERSARIAL EXAMPLES IN PHYSICAL WORLD & BLACK BOX ATTACKS

LARGE SCALE ADVERSARIAL TRAINING & ENSEMBLE APPROACHES

ADVERSARIAL 3D MODELS
&
STRONGER L2 ATTACKS

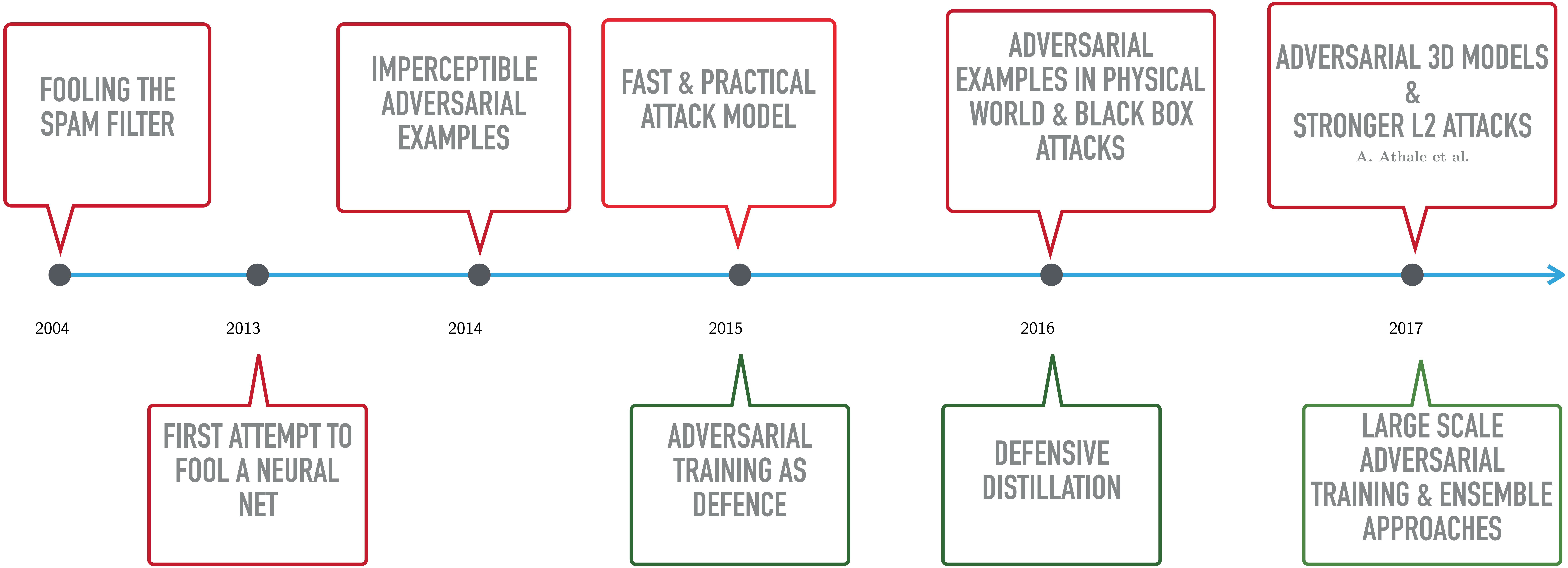
A. Athale et al.

FAST & PRACTICAL ATTACK MODEL

DEFENCE STRATEGIES

- Varies based on goal of adversary
- For multi class targeted or non-targeted attack defence means making classifier robust against adversarial perturbations (e.g. Self Driving Cars)
- For anomaly detection etc scenario defence means detecting adversarial examples

TIMELINE



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