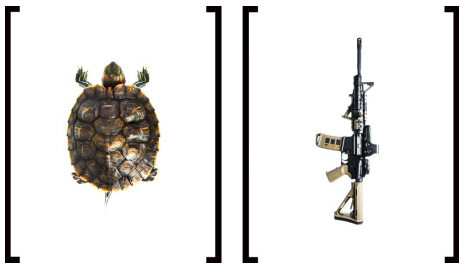
PROJECT REPORT CITIZEN SCIENCE

DENNIS KREUSSEL & TIM KAELBLE



CitizenAI

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ABSTRACT

Short summary of the contents in English... a great guide by Kent Beck how to write good abstracts can be found here:

https://plg.uwaterloo.ca/~migod/research/beckOOPSLA.html

ZUSAMMENFASSUNG

Kurze Zusammenfassung des Inhaltes in deutscher Sprache...

CONTENTS

1 INTRODUCTION

Citsci.cauterize is a citizen project about evaluating robust machine learning algorithms in different test scenarios. Researchers and citizen scientists alike can publish their algorithms and take part in a community endeavor to find general robust machine learning algorithms.

With regards to open source development and stackeoverflow we see that technical experience and solving real world problems is always a valuable activity. Often these activities are used in CVs to certify problem solving skills. We will try to motivate people to contribute by giving them the opportunity to certify their experience in malware analysis via the web platform

- Scientist need humans as loss functions
- Loss function easy for recognizing images
- harder approach for sound, text, code, etc.
- integration of human knowledge
  → reinforce robustness of trained models
  → use human as reference

2 ROADMAP

2.1 PROCEDURE BASED ON HACKLEY'S LEVEL OF PARTICIPATION

participans can access contribution to the project in a stepwise manner. Idea to iterate through hackley's level of participation to reach more possiple users.

2.1.1 *1. Phase*

- presentation of pictures
- explanation for decision of algorithm
- motivation for further investigation of algorithms
- getting to know machine learning algorithms

2.1.2 *2. Phase*

- show different pictures/videos/data
- User decides which data fits the given lable best
- User as loss function replacment/addition

2.1.3 *3. Phase*

- user can upload designed models
- other users can test models and upload possible attacks

2.1.4 *4. Phase*

- Ranking of robustness of different models for different pruposes
- collaborative analysis
- Forum for discussions

2.2 DIFFERENT APPROACHES OF ANALYSING CITIZEN SCIENCE PROJECTS

3 CHALLENGES

3.1 PRIVACY

- restrict user access
- possible malware is uploaded
- danger of tracing users actions?

3.2 OVERLAP WITH COMMUNITY SCIENCE

- Difficulties for users with no prior knowledge
- are we still in scope of citizen science