1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea and briefly describe their role.

3. PROBLEM

What problem are you trying to solve? Is it really a problem?

4. ADVANTAGES

What makes your solution special? How are you different from others?

5. SOLUTION

Describe how are you planning to solve the problem.

6. PRODUCT

How does your product or service actually work? Show some examples.

7. TRACTION

Traction means having a measurable set of customers that serves to prove a potential.

8. MARKET

Know, or at least attempt to predict, the size of your target market.

9. COMPETITION

What are the alternative solutions to the problem you are trying to solve?

10. BUSINESS MODEL

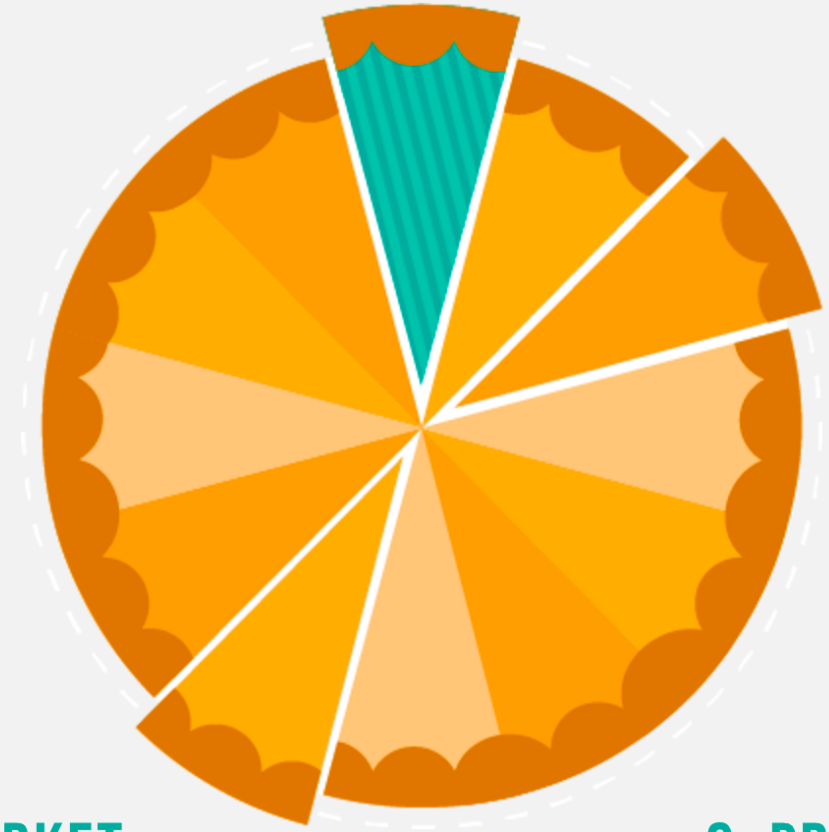
How are you planning to make money? Show a schedule when you expect revenues to pour in.

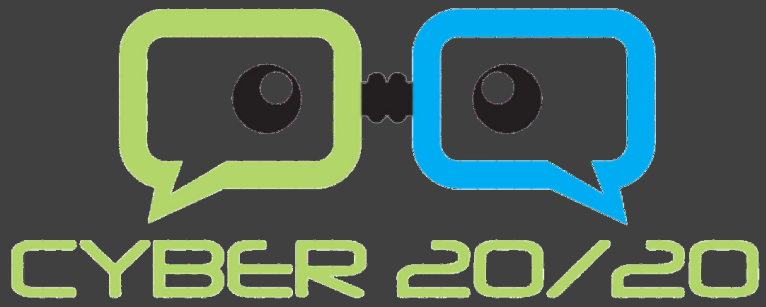
11. INVESTING

What is your planned budget? What kind of money are you looking for?

12. CONTACT

Leave your contact details and let people know how to reach you quickly.





Deep Learning Meets Cybersecurity

Investor Deck
September 2017

WWW.CYBER2020.COM

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

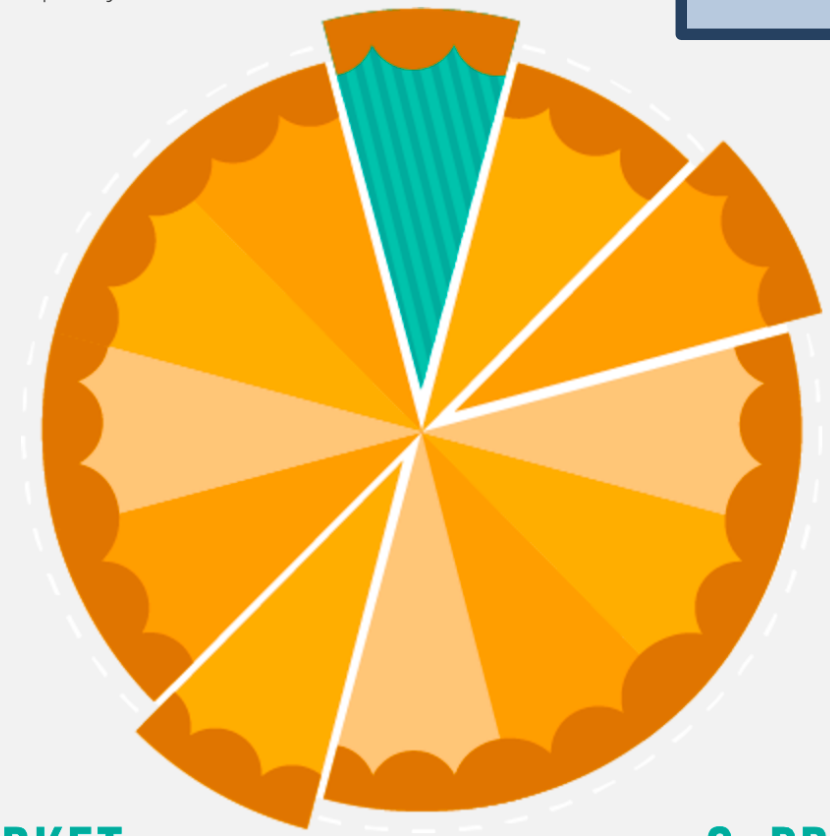
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



The CYBER 20/20 Leadership Team

CYBER 20/20

Experience: Research and Development

John Cavazos, Ph.D. (CEO and Founder)

Current Associate Professor at University of Delaware
JP Morgan Faculty Fellow at Inst. For Financial Services Analytics

Experience: Execution Strategy

Jay Modi (COO)

Former CTO at Lockheed Martin
Senior positions at The SI Organization, CSC, and NASA

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

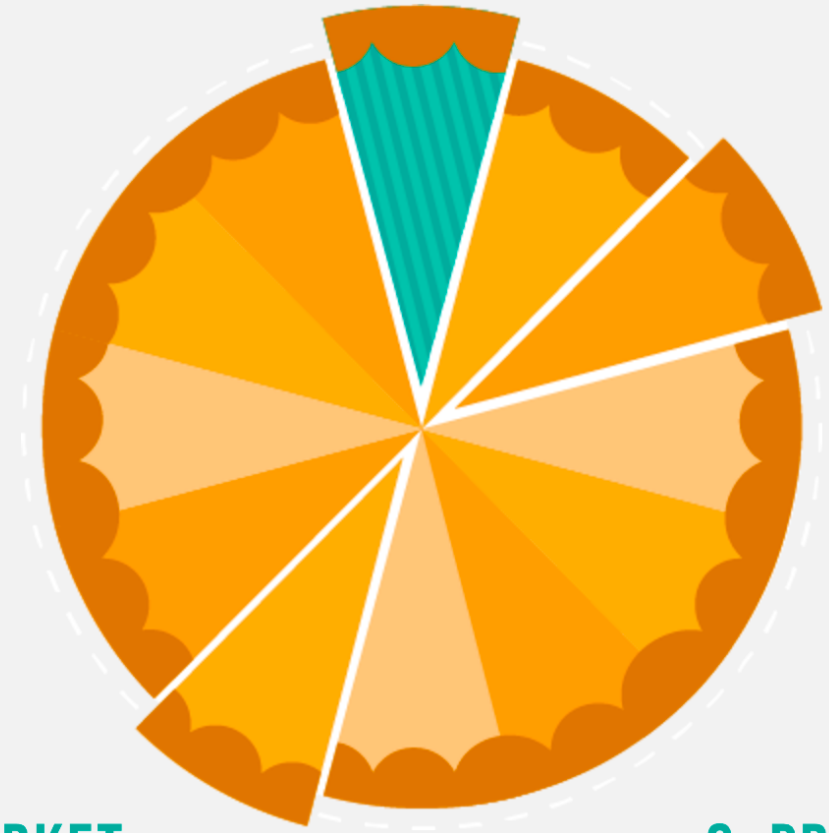
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

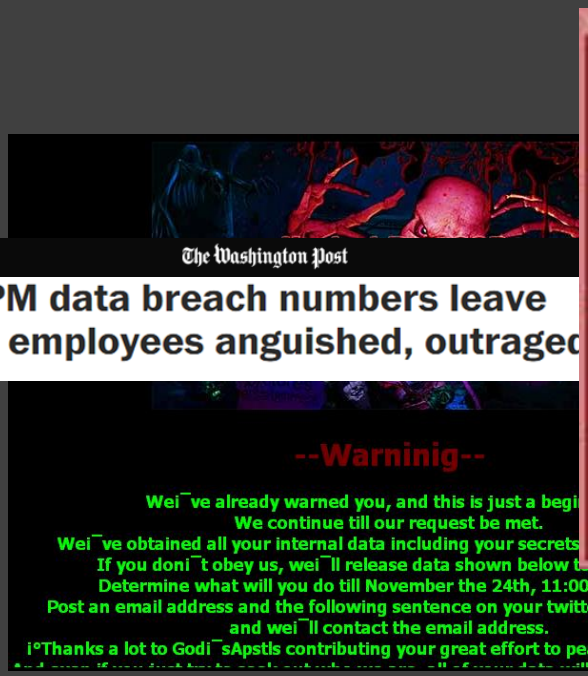
What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



The Problem



CYBER 20/20

* Over 100K malware variants created every hour
* Bad actors have embraced automation
* Good actors still construct malware detection rules manually

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

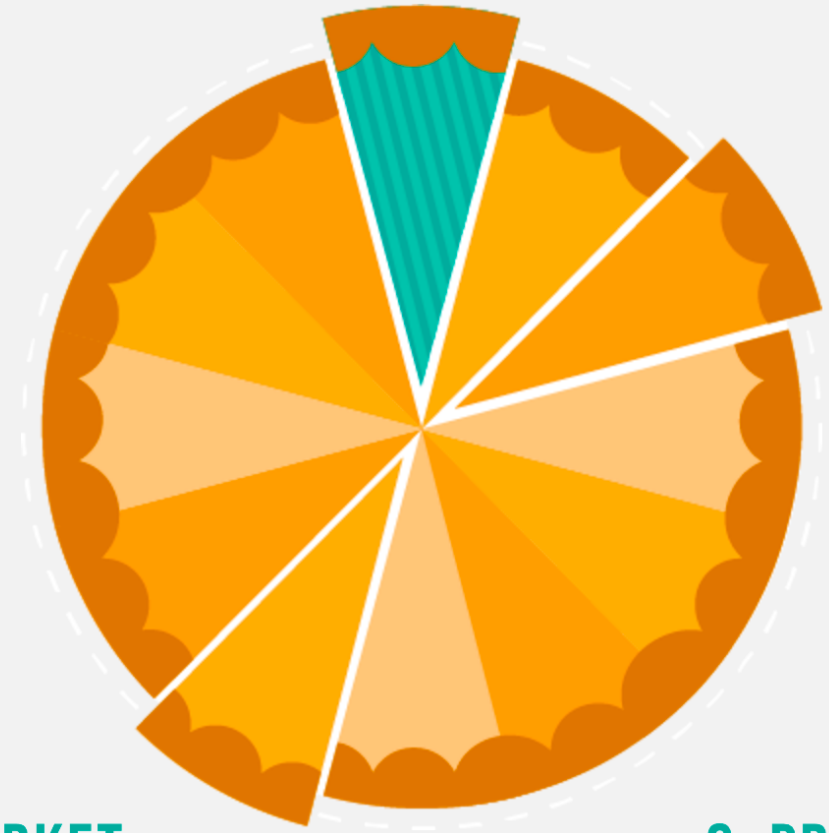
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

What is your planned budget? What
kind of money are you looking for?

12. CONTACT

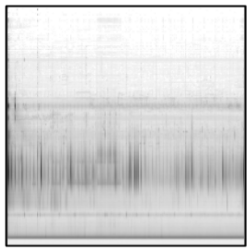
Leave your contact details and let people
know how to reach you quickly.



State-of-the-Art versus Graph-Based Malware Characterization

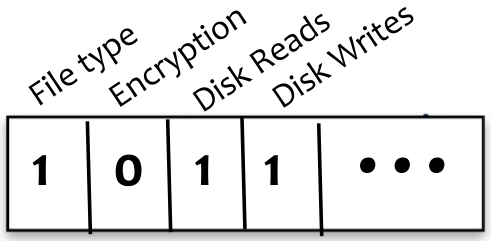
CYBER 20/20

State-of-the-Art



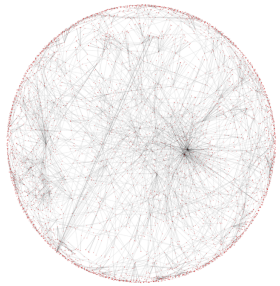
Byte Entropy

+



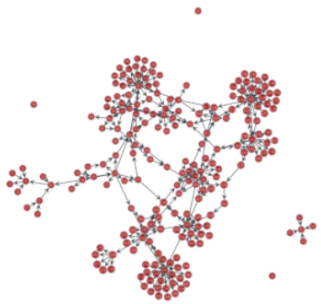
Summarized Code

Graphs



Static Graphs

+



Dynamic Graphs

- Feature Vector Characterization
  - Byte Entropy Histograms
  - Summarized Code Structure
- Graph-Based Characterization
  - Static Code Graphs
  - Dynamic Behavioral Graphs

50% improvement in accuracy using Graphs!

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

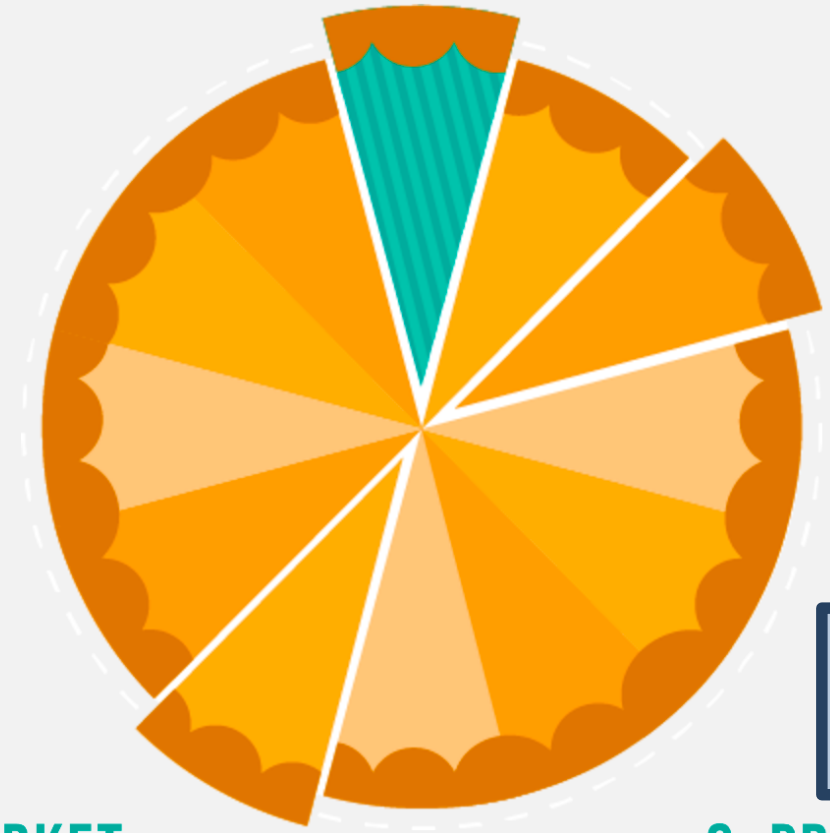
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



The Solution:

Deep Learning Applied to Cybersecurity

CYBER 20/20

Training Data Sets:
Repository of
Billions of Malware

+ theano +

Deep Learning

+ amazon web services +

High-Performance
Cloud Computing

+ UNIVERSITY OF DELAWARE

20 Years R&D

=

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

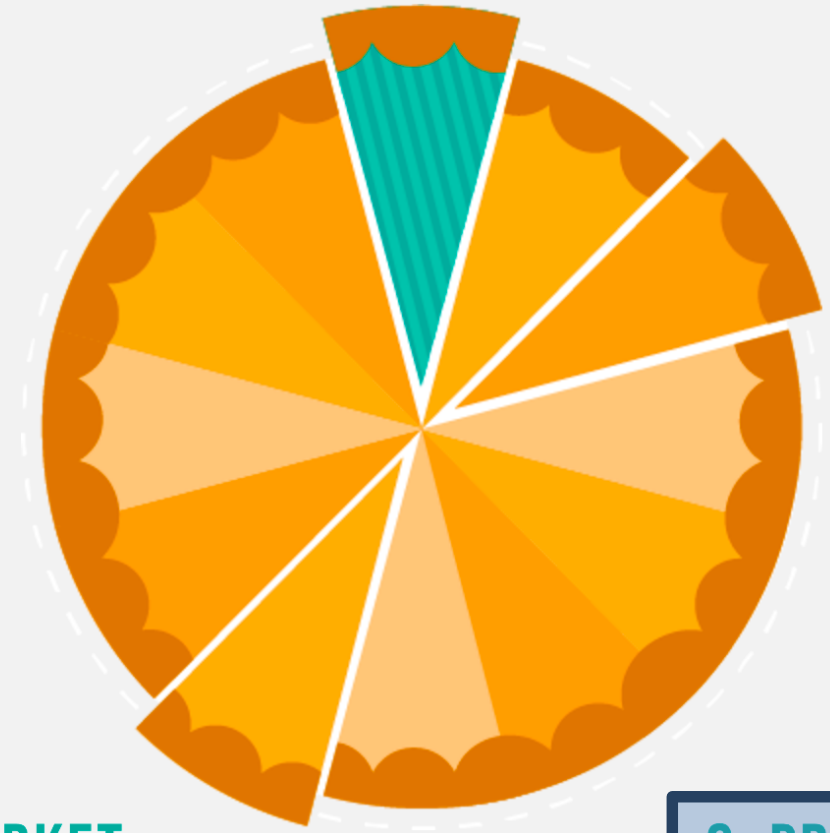
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

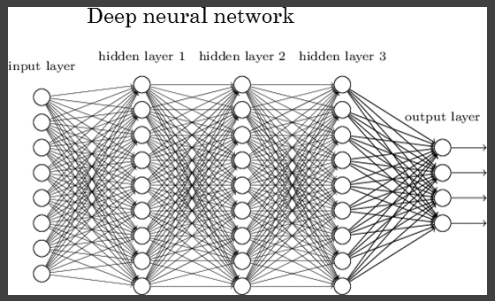
What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



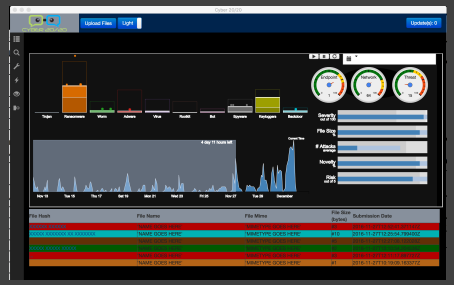
The Product



Cyber 20/20 is an all-software product consisting of:

1) a deep learning neural network in the cloud

2) a network tap used to extract and examine all binary files entering an enterprise



3) a web based user interface

CYBER 20/20

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

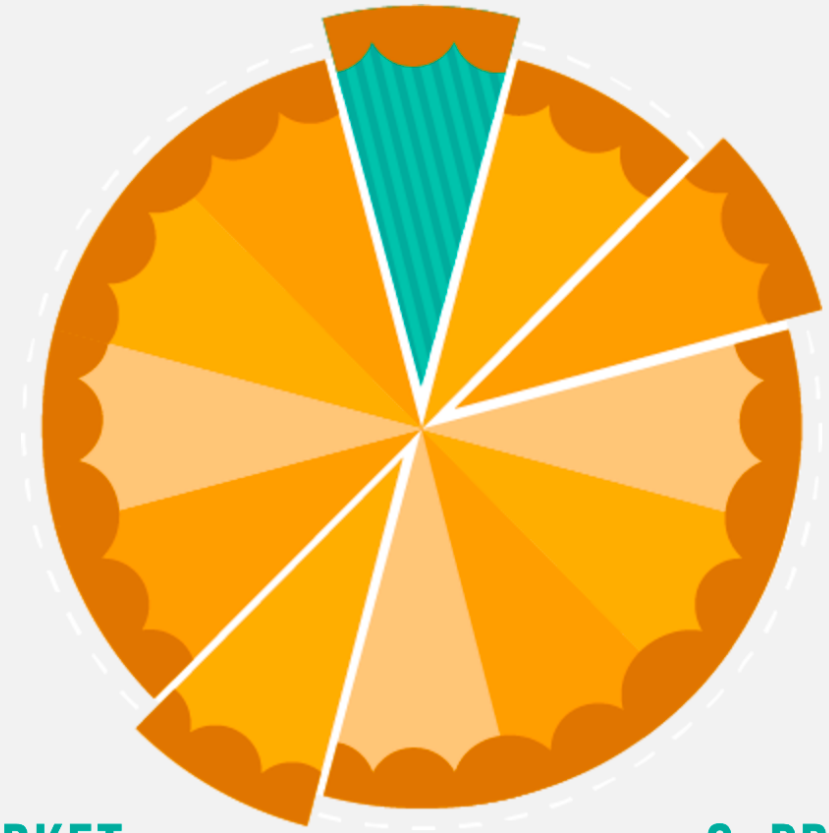
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

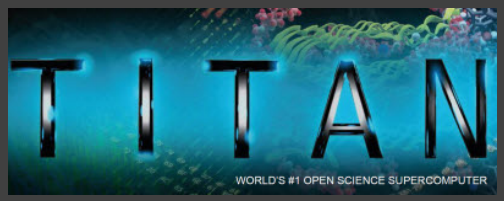
What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



Great Start!



* Awarded $600K contract from Naval Research Laboratory.
* Awarded 1.25 Million compute hours on Department of Energy Titan supercomputer (fastest US supercomputer) to enhance our characterization and machine learning models.
* Applied for patent application No. 15256883, "Malware Analysis and Detection Using Graph-Based Characterization and Machine Learning"

CYBER 20/20

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

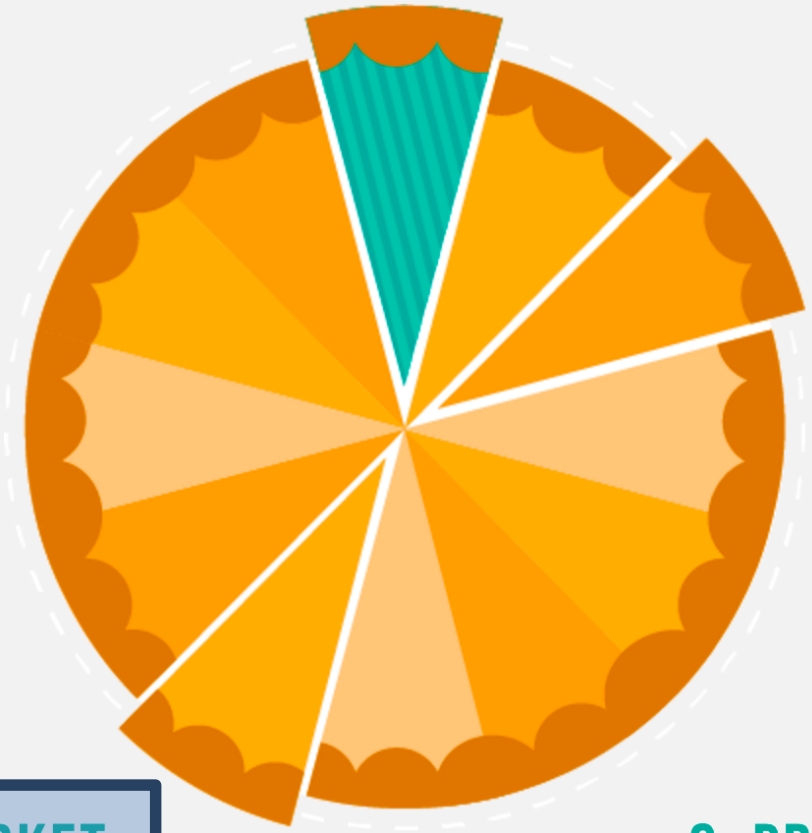
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



Target Market Verticals

- Insurance and Financial Firms

- DoD, DHS, IC

- Critical infrastructure and healthcare

CYBER 20/20

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

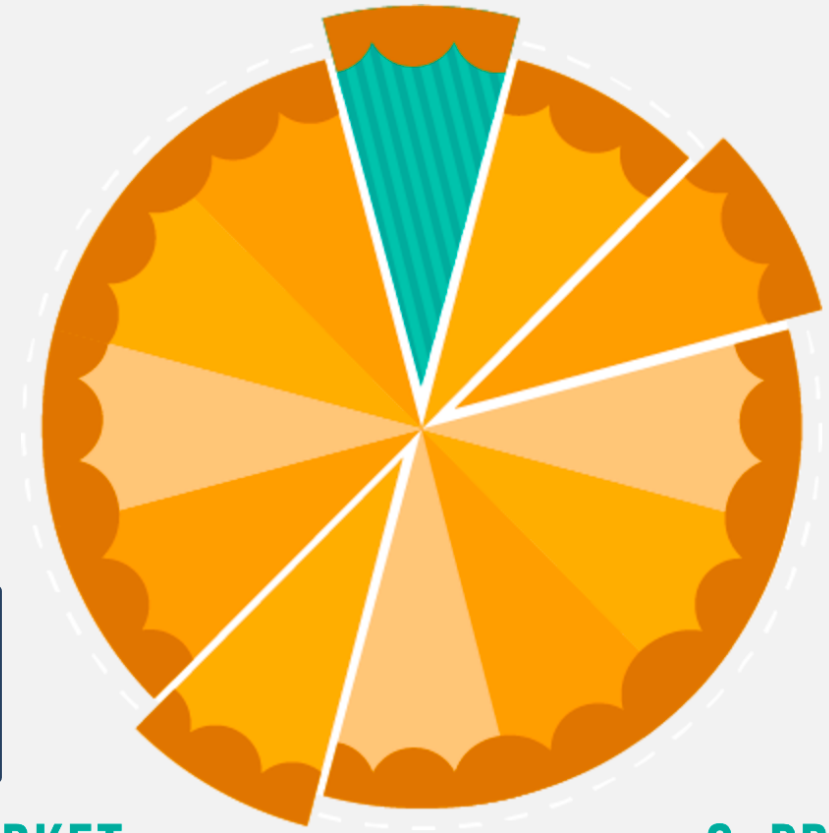
How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.



Competitive / Cooperative Landscape

CYBER 20/20

DARKTRACE

CARBON BLACK
ARM YOUR ENDPOINTS

BLUVECTOR

THREAT CONNECT™

CounterTack

REVERSING™ LABS

Barriers To Entry For Competition

Graph-based
Characterization
+
Machine Learning

- Patent pending for richest characterization of malware: graph-based characterization
- Know-how second to none: 20 years of code characterization and machine learning
- World-class experts in machine/deep learning, reverse engineering, high-performance computing, and malware analysis

CYBER 20/20

1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.

Pricing and Projected Revenue
Recurring Revenue Focus

CYBER 20/20

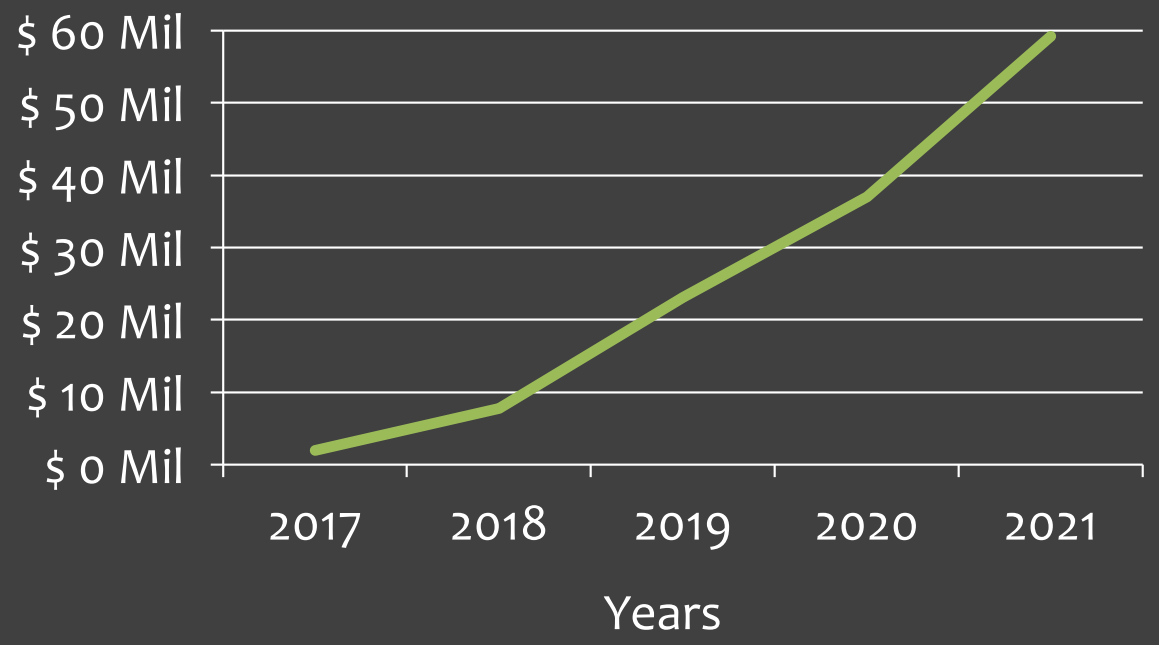
Novel Pricing Scheme

Cost of Service : 1¢ per File

Organization Size	Monthly # of Files	Monthly Cost
Very Large	10 Million	$100,000
Large	1 Million	$10,000
Medium	250K	$2500
Small	100K	$1000

Projected Revenue

Projected Profitability in Y2



1. INTRODUCTION

Who are you and why you're here?
Keep it short and sweet.

2. TEAM

Show the people behind the idea
and briefly describe their role.

3. PROBLEM

What problem are you trying to solve?
Is it really a problem?

4. ADVANTAGES

What makes your solution special?
How are you different from
others?

5. SOLUTION

Describe how are you planning
to solve the problem.

6. PRODUCT

How does your product or service
actually work? Show some examples.

7. TRACTION

Traction means having a measurable
set of customers that serves to prove
a potential.

8. MARKET

Know, or at least attempt to predict,
the size of your target market.

9. COMPETITION

What are the alternative solutions to
the problem you are trying to solve?

10. BUSINESS MODEL

How are you planning to make
money? Show a schedule when
you expect revenues to pour in.

11. INVESTING

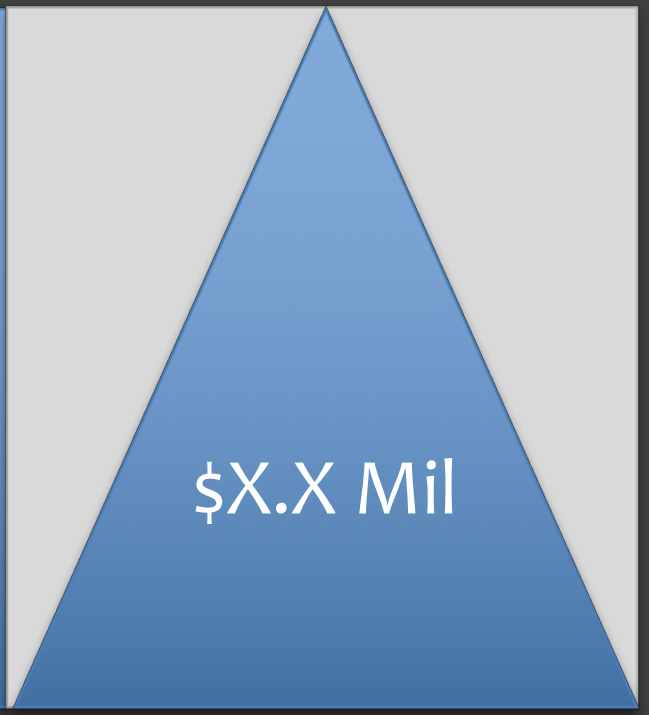
What is your planned budget? What
kind of money are you looking for?

12. CONTACT

Leave your contact details and let people
know how to reach you quickly.

Capital Request

- 24-month runway
- Early exit potential
- Uses of funds
  - Develop platform & product features
  - Build sales and marketing engine



CYBER 20/20

1. INTRODUCTION

Who are you and why you're here? Keep it short and sweet.

2. TEAM

Show the people behind the idea and briefly describe their role.

3. PROBLEM

What problem are you trying to solve? Is it really a problem?

4. ADVANTAGES

What makes your solution special? How are you different from others?

5. SOLUTION

Describe how are you planning to solve the problem.

6. PRODUCT

How does your product or service actually work? Show some examples.

7. TRACTION

Traction means having a measurable set of customers that serves to prove a potential.

8. MARKET

Know, or at least attempt to predict, the size of your target market.

9. COMPETITION

What are the alternative solutions to the problem you are trying to solve?

10. BUSINESS MODEL

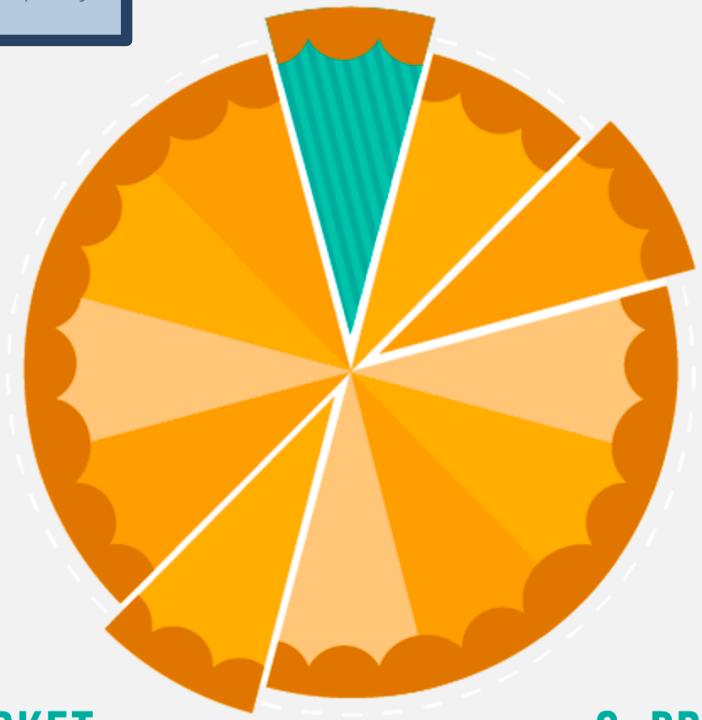
How are you planning to make money? Show a schedule when you expect revenues to pour in.

11. INVESTING

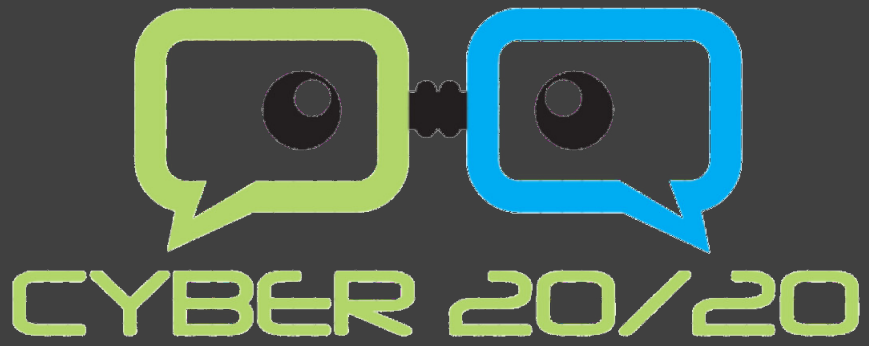
What is your planned budget? What kind of money are you looking for?

12. CONTACT

Leave your contact details and let people know how to reach you quickly.



WWW.CYBER2020.COM



Deep Learning Meets Cybersecurity

John Cavazos, CEO
cavazos@cyber2020.com
302-690-6041

Jay Modi, COO
jay.modi@cyber2020.com
203-802-8742

WWW.CYBER2020.COM