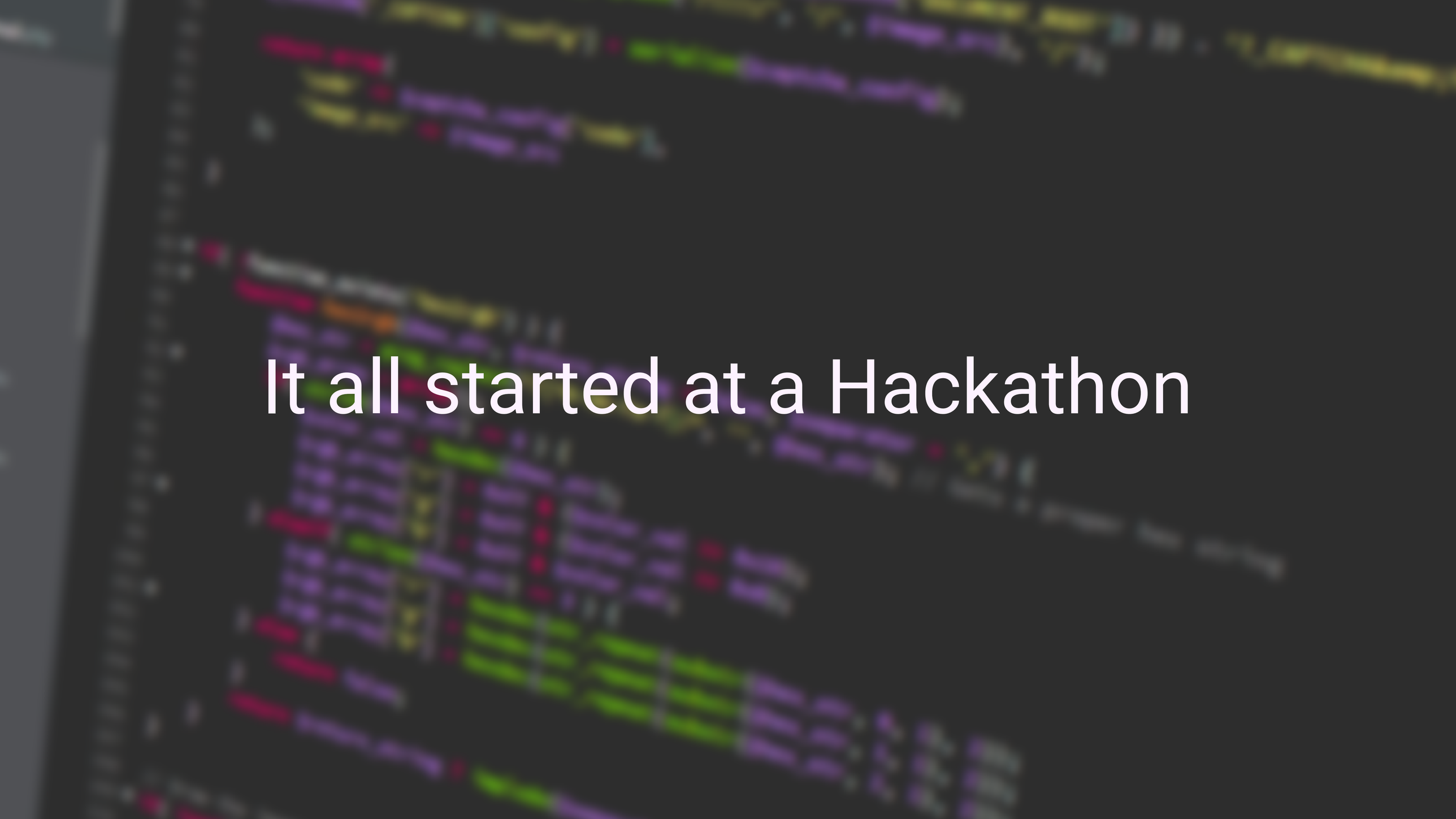
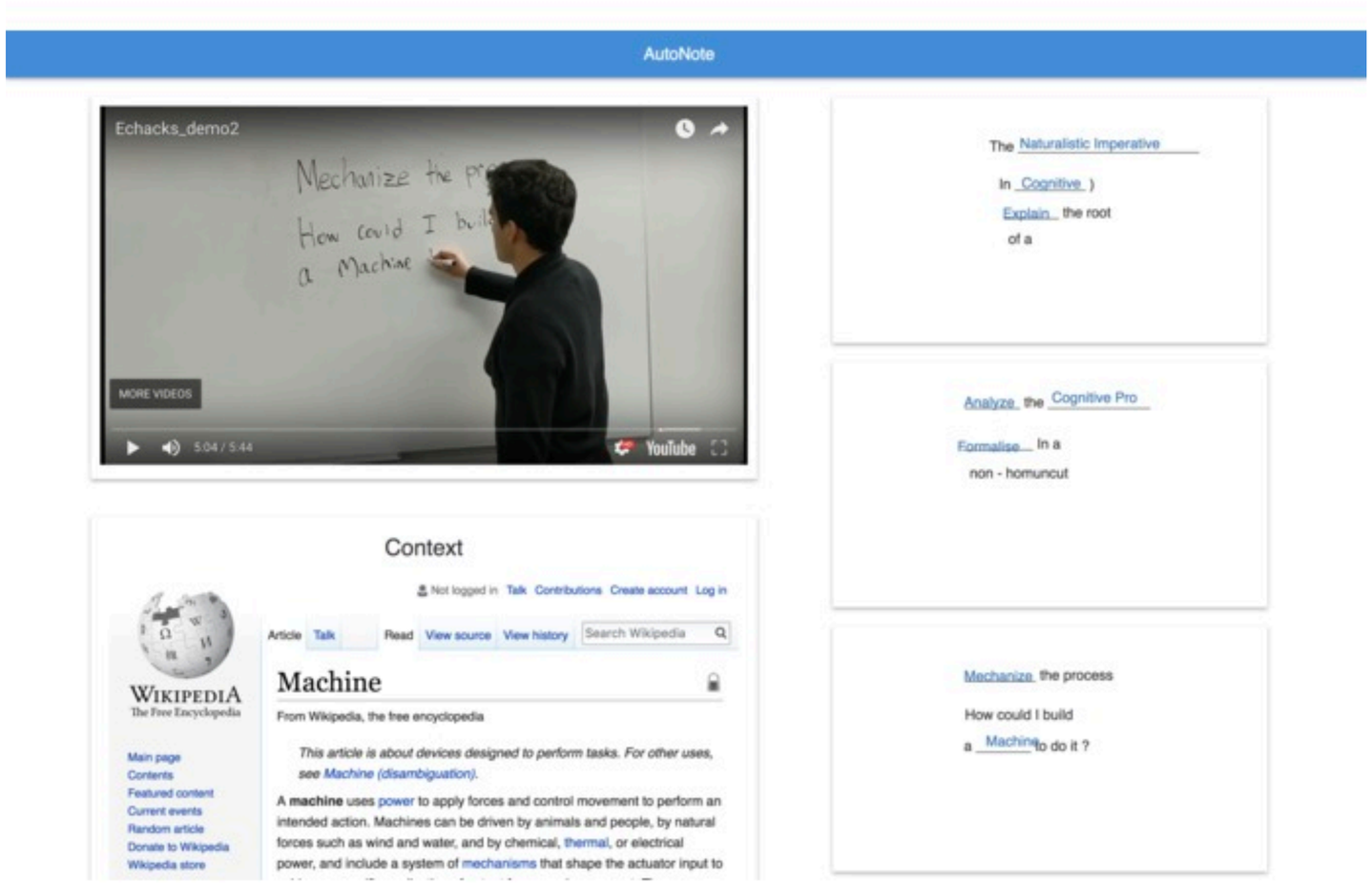
Using AI in Your Startup, Tomorrow.

Alex Gordienko, Sid Gupta, Adam Comer - Knowtworthy


It all started at a Hackathon



.01

Enter in Link to Lecture

.02

Transcribe Whiteboard

.03

Generate Slides and Context

“I could see this being used in my lectures”

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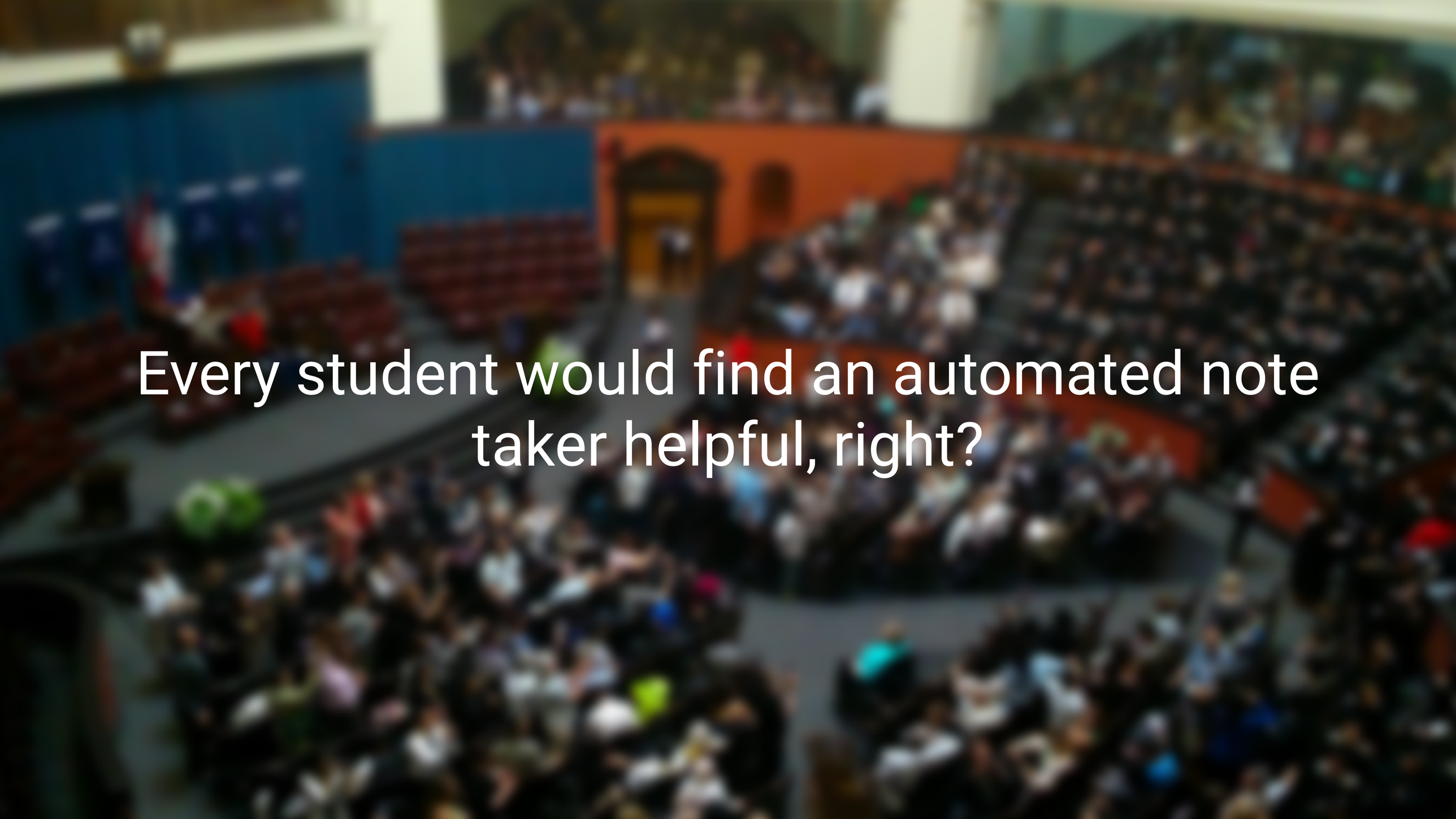
in my lectures”


Every student would find an automated note taker helpful, right?

Turning a Hackathon Idea Into a Startup

- Come up with idea
- Build it!
- Profit.

Build it!

Build it?

Build it?

1. Build speech to text engine.

2. Build computer vision handwriting to text engine for text and diagrams on chalkboards

3. Combine the two into a 4.0 GPA generating web platform

Opportunity to work on this all summer

A startup is a hypothesis.

You *think* that your product is going to help people, but have no evidence to back that up.

Us
W.S.A.R.R.
nitratediva

Validate first, build later

1. Go find your target demographic and ask them all about their pain surrounding a problem

2. Research why this problem exists and existing solutions

3. Pitch your ideas to others and ask their thoughts

Meetings!

Back to Square One

1. Meetings make more sense for notes automation
2. Meeting inefficiency is a $280 Billion issue!
3. Set up a focus group with business professionals to confirm
4. Can we finally start building now?

Not yet..

The Focus Group

The focus group did not like the idea of recorded meetings

The focus group did not like the idea of recorded meetings

1. We asked about their habits to determine the core cause of meeting ineffectiveness

2. Determined that team communication and collaboration are the real culprits

3. Decided to include sentiment analysis

Build it!

What We’d Need

- Sentiment Analysis
- Speech to Text

But the more we researched building our own solutions,

the more we realized that we might not have to..

Using AI Services For Your Ideas

The Power of AI APIs

amazon

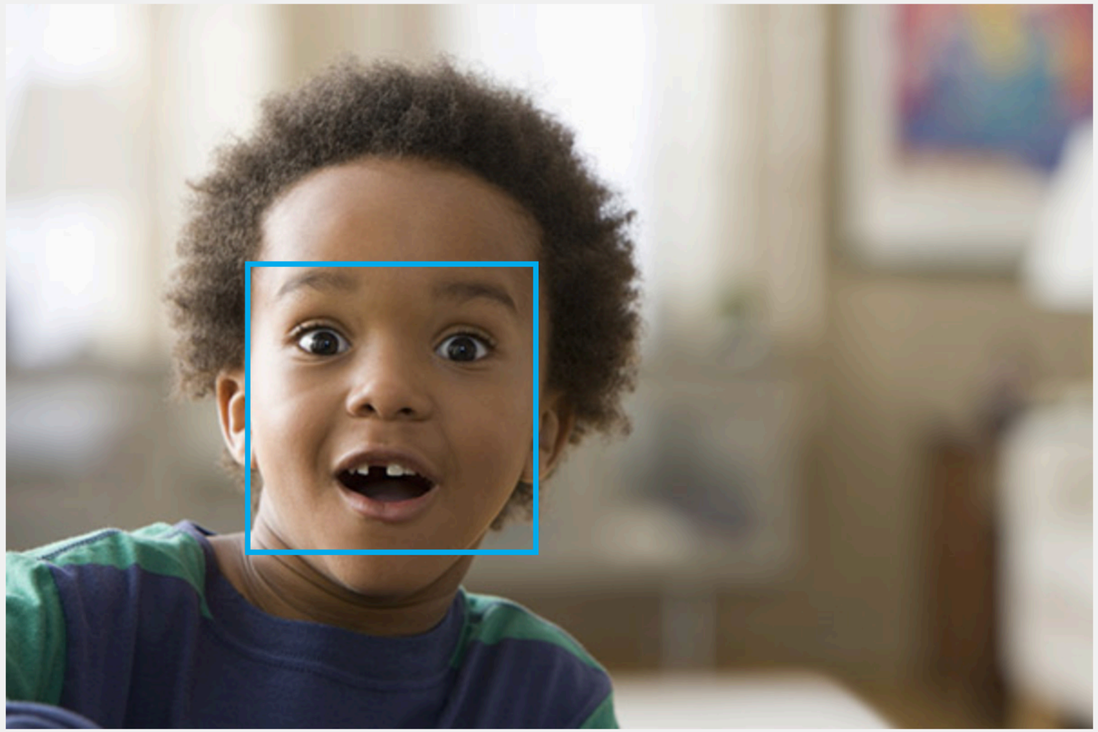
General Models

- Handwriting Recognition
- Speech to Text

Specific Models

- Emotion Detection in Photos

Emotion Detection in Photos




```
Detection result:
1 faces detected

 JSON:
 [
  {
    "faceRectangle": {
      "top": 141,
      "left": 130,
      "width": 162,
      "height": 162
    },
    "scores": {
      "anger": 9.29041E-06,
      "contempt": 0.000118981574,
      "disgust": 3.15619363E-05,
      "fear": 0.000589638,
      "happiness": 0.06630674,
      "neutral": 0.00555004273,
      "sadness": 7.44669524E-06,
      "surprise": 0.9273863
    }
  }
]
```


Anger: 0.00000929

Surprise: 0.927

Getting Set Up

Pass in Subscription Key

```
<!DOCTYPE html>
<html>
<head>
    <title>Detect Faces Sample</title>
    <script src="http://ajax.googleapis.com/ajax/libs/jquery/1.9.0/jquery.min.js"></
</head>
<body>

<script type="text/javascript">
    function processImage() {
        // Replace <Subscription Key> with your valid subscription key.
        var subscriptionKey = "<Subscription Key>";

        // NOTE: You must use the same region in your REST call as you used to
        // obtain your subscription keys. For example, if you obtained your
        // subscription keys from westus, replace "westcentralus" in the URL
        // below with "westus".
        //
        // Free trial subscription keys are generated in the westcentralus region.
        // If you use a free trial subscription key, you shouldn't need to change
        // this region.
        var uriBase =
            "https://westcentralus.api.cognitive.microsoft.com/face/v1.0/detect";

        // Request parameters.
        var params = {
            "returnFaceId": "true",
```

Getting Set Up

Modify own code to work with the API

```
<input type="text" name="inputImage" id="inputImage"
       value="https://upload.wikimedia.org/wikipedia/commons/c/c3/RH_Louise_Lillian_Gish.jpg" />

<button onclick="processImage()"> Analyze face</button>

<br><br>

<div id="wrapper" style="width:1020px; display:table;">
    <div id="jsonOutput" style="width:600px; display:table-cell;">
        Response:<br><br>

        <textarea id="responseTextArea" class="UIInput"
                  style="width:580px; height:400px;" />

    </div>

    <div id="imageDiv" style="width:420px; display:table-cell;">
        Source image:

        <br><br>

        <img id="sourceImage" width="400" />
    </div>
</div>
```

Input image URL

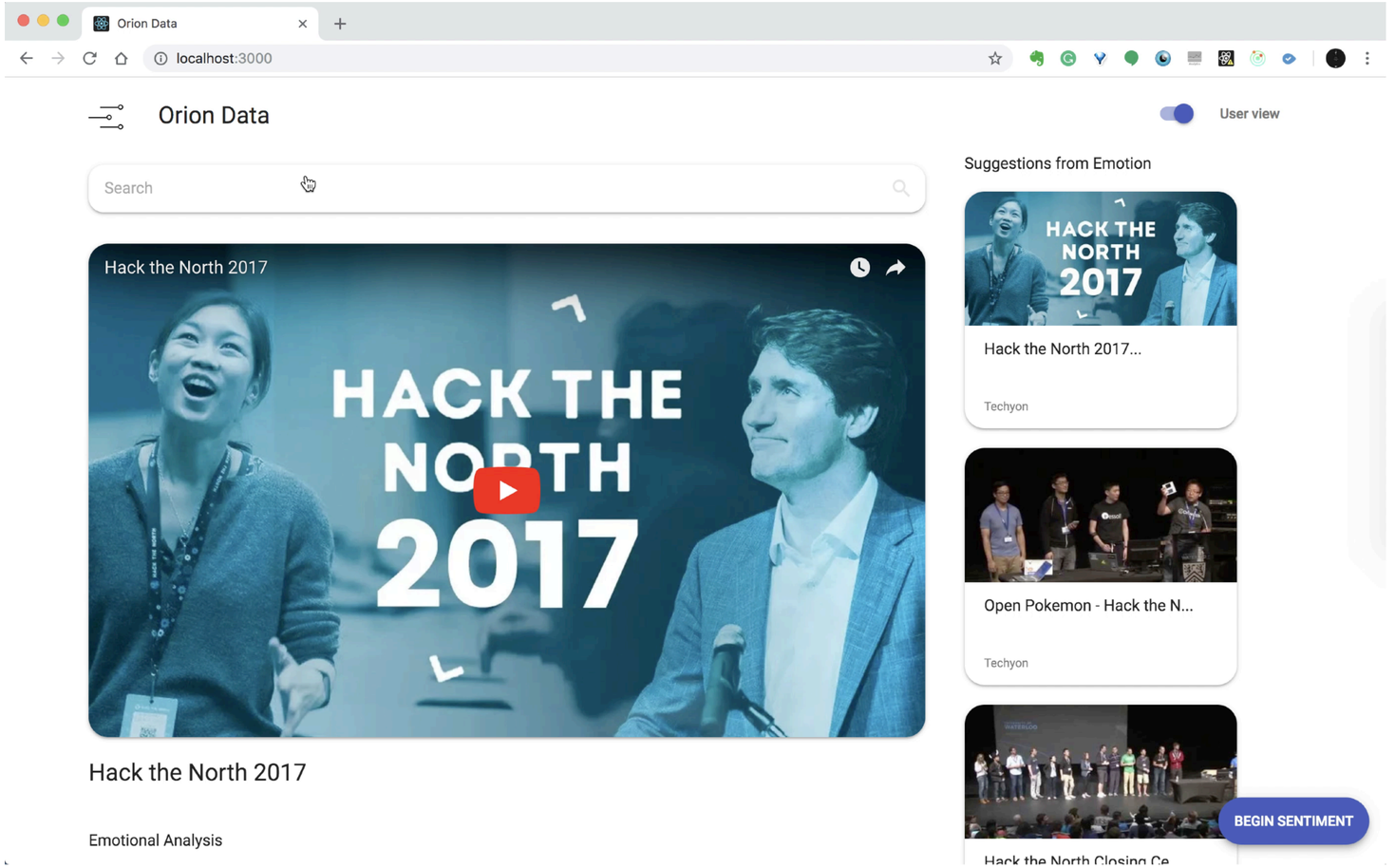
Create a button, which runs processImage() function on click

Display results from processImage()

Display image from URL

Getting Set Up

Hack the North Project using Microsoft Emotion API



Sentiment Analysis

Knowtworthy AI

Audio Transcription

Sid Gupta
Lorem ipsum dolor sit amet,

Adam Comer
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Alex Gordienko
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Sid Gupta
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Highest Clout

Sid Gupta

Most Analytic

Adam Comer

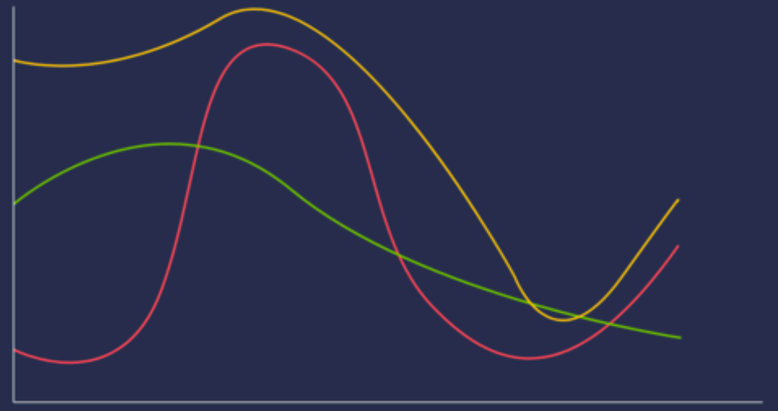
Most Words Spoken

Alex Gordienko

Highest Positivity

Sid Gupta

Aggression Levels



Topic Similarity

The Good and Bad of using APIs

THE GOOD

- Fast Prototyping
    - Easy to build, easy to delete
    - Building what the client wants to use
- Iteration and Learning
- Data Collection

THE BAD

- Can get expensive if you are bootstrapping

- Not optimized for your needs

- Not as secure

- Not as cool

Great Places to Grow Your Idea

INCUBATORS AND ACCELERATORS AT U OF T

<DCSIL>
WHEREFOUNDERSAREMADE
Department of Computer Science Innovation Lab

The ENTREPRENEURSHIP Hatchery

CREATIVE DESTRUCTION LAB

And more..

Thank you!

More resources!

(take a photo maybe)

1. Slides and demos will be posted on our website: knowtworthy.com/startai

2. Microsoft Emotion API: https://azure.microsoft.com/en-us/services/cognitive-services/emotion/

3. Starting Up at U of T: http://entrepreneurs.utoronto.ca/