

# Google GCP and AI

Perth .Net Users Group  
18<sup>th</sup> December 2018

# Agenda

- **What is Google Cloud Platform?**
- **Why focus on AI and some of the basics**
- **I'm a developer, get me out of here!**
- **Demo application**
- **Lessons Learned**

**Organize the world's  
information and make it  
universally accessible and  
useful**

# Google



Google Search

I'm Feeling Lucky

The Google logo is centered in the upper half of the image, rendered in its characteristic multi-colored font. It is superimposed over a background of a vast server room with rows of server racks and a high, industrial ceiling.

# Google

A white rectangular search bar is positioned horizontally across the middle of the image. It contains a small, colorful microphone icon on the right side, indicating voice search functionality.

Google Search

I'm Feeling Lucky



# Seven cloud products

## With one billion users each





Google Cloud Platform

**Use best of Google's innovation to solve the  
problems that matter most to you**

# Why focus on AI?

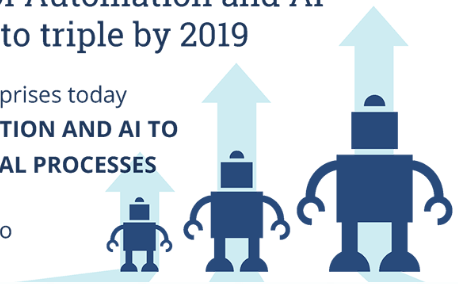
**54%** of business executives say AI solutions implemented in their businesses have already increased productivity

(PwC Consumer Series 2017)

Use of Automation and AI  
to triple by 2019

**16%** of enterprises today  
APPLY AUTOMATION AND AI TO  
MISSION-CRITICAL PROCESSES

**51%** expect to  
do so **BY 2019**



(ISG 2018)

- High adoption expected.
- “No brain, no gain”
  - Two-thirds of companies struggle with finding and acquiring AI talent
  - 83% struggle with retention.
- One solution ([Hire.google.com](https://www.google.com/hire)) is using AI to find AI developers.
- To help bridge the gap, cloud suppliers are providing “pre-trained” models.



# The basic AI Concept

- 🌐 In 1905 George Santayana a philosopher said, “Those who cannot remember the past are condemned to repeat it”
- 🌐 In 1980 Dr. Carl Sagan a cosmologist said, “You have to know the past to understand the present.”
- 🌐 In 2012 Robert T Kiyosaki an accountant said, “The best way to predict the future is to study the past, or prognosticate.”
- 🌐 AI model training is all about analyzing the past to predict the future.



- 🌐 Neural Nets are not simple. Tools mainly are designed for data scientist by data scientist.
- 🌐 For Dev there are a few out of the box APIs
  - 🌐 Vision API (Label, extract Text, Web search)
  - 🌐 Video API (extract metadata)
  - 🌐 Translation
  - 🌐 Text-to-Speech
  - 🌐 Natural Language (extract intent, main use is for Bots)
- 🌐 As always, it's not long before you get to the last 10% for functionality that takes 90% of the effort.

# Landmark Example

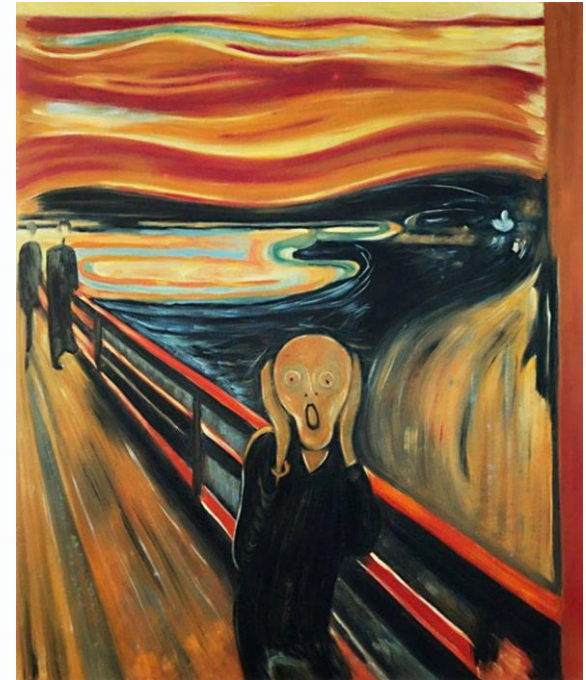


Landmarks – Where is this?



# Label Example

🌐 Label – what description would you give?





# Text/OCR Examples



Text





**PRODUCT DEMO**

**NEXT EXIT ↗**

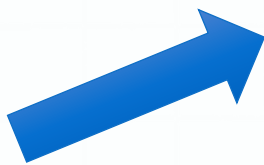


# Finally AutoML

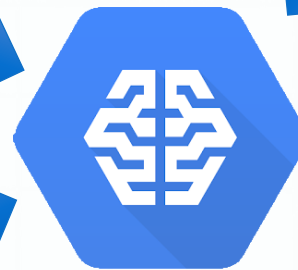
- Great option for custom labels
- Allows training
- With as few as 100 images
- Maybe eventually export model for edge processing



“Magic”



“Playing”



“Magic”  
Confidence=99%

# Deploy the App to GCP!



# Questions



**Code and images available on GitHub**

<https://github.com/richardagreene/PERTHdotnet-CardVision>



**Presentation in GitHub repository**