Auto-Tagging, Search and Image Synthesis

- Mayank Sagar
In brief

– Auto-tagging or keywording
– Search with computer vision
– Semantic Labelling
– Object Detection and Analysis
– IDS AutoColourise and Style Transfer
– the future with Image synthesis

IDS
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• A brief history of search
  – Build an index
  – Add content

• Finding pictures
  – Keywording or Tagging
  – Too few – images get missed
  – Too many words makes keywording meaningless
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plainpicture

p300m1113304f

Archive Date: 30 Apr 2016

Notes: (click on text below to update)
Click to edit
Shared: ☑ Only me

Caption: Credit: plainpicture/Westend61/Jaak Nilson; Maximum size: 49.2 MB, Model Release: No, Property Release: No

Headline: Estonia, old wooden barn in winter


plainpicture p300m1113304f
• Guessing game between researcher & keyworder

• AI driven keywording
plainpicture

p300m1113304f

Archive Date: 30 Apr 2016

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Caption: Credit: plainpicture/Westend61/Jaak Nilson. Maximum size: 492 MB; Model Release: No; Property Release: No

Headline: Estonia, old wooden barn in winter

IDS Keywords: wood, nature, snow, "no person", house, rural, winter, family, tree, countryside, outdoors, bungalow, fall, landscape, sky, cold, cabin, hut, frost, travel, idseutagged
• Major players
  – Clarifai
  – AWS Rekognition
  – Imagga

• RESTful APIs with JSON formatting
• Translations
• Variables – confidence score
• Custom training
Visual Search

- Use an image to find the same or duplicate image – reverse image search
- Use an image to find similar images
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Enter Machine Learning..

- Train a network to identify presence of features of interest within images
- Object detection and Analysis
IDS
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Object Detection and Analysis
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Object Detection and Analysis
Machine Learning

• Train a network to identify presence of features of interest within videos
  • Logos
  • Objects
• Semantic labelling
• Colour histogram matching
• Semantic labelling = What’s in the picture
• Colour histogram matching
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• Semantic labelling = What’s in the picture
• Colour histogram matching = How it looks
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Style transfer
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Style transfer
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Style transfer
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Style transfer
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Image Synthesis

• GANs – Generative Adversarial Networks
• Making stuff from basic inputs
• Making stuff from nothing
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Making stuff from basic inputs
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Making stuff from basic inputs
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Making stuff from basic inputs
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Making stuff from nothing
IDS
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IDS
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IDS
London
IDS AutoTag
religion, art, furniture,
painting, god,
decoration, gold,
church, interior,
esculpture, spirituality,
temple, holy, prayer,
symbol, people,
worship, saint, ancient
Thanks to the team at IDS
who can’t be with us in person
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as they don’t actually exist
but were synthesised by a neural network
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