How to do AI, IoT and ML with IBM i

Integrating AI with your IBMi

Ross Cruickshank

developer advocate
ross@vnet.ibm.com
@rcruicks
Give your data a lift with machine learning - Get to Watson Cognitive and PowerAI Vision working for you through simple APIs
IBM Developer Code Experience
Creating a Consistent Experience in Both Digital and Physical Interactions

Digital

Developer Site
Intro: Developer Way Introduction

Code
Intro: Patterns

Content
Intro: Webinars, Blogs, Best Practices, etc.

Community
Digital Interaction: Online communities and interaction between developers defines the Open Source community.

Physical

Developer Advocate
Activity: Developer Way Introduction

Code
Intro: Platform Introduction

Content
Activity: Webinars, Blogs, Best Practices, etc.

Community
Lab: Developer Advocate and attendees use lab as a focused, interpersonal open source experience

Aligning the Digital Developer experience with the Physical Developer experience reinforces the concept of Code, Content, and Community.
Integrating AI handy links

- https://nodered.org
Integrating AI

- Watson Cognitive API
  - Language Translation
- PowerAI
  - AI Vision
- Integration points
  - Db2 for I web access
  - Java
  - NodeRed
Linking IBMi and AI with NodeRED

Diagram:

- Browser
- NodeRED on i
- PowerAI
- Watson VR
- Watson Assist
- Cloud Object Store
- Watson Translate
- {Render}
- SQL
- JSON
IBM chatbot (with translation)
IBMi image classifier (Watson & AI vision)
IBM i file I/O (Db2i & STMF)
IBM POWER AI

- PowerAI
  - AI Vision
- Integration points
  - AC922
  - S822LC
  - IBM Cloud
  - PDP/Nimbix
PowerAI Vision

Image classifier
Object detector
via IBM PDP Cloud


IBM Developer
Try PowerAI Vision


**IBM PowerAI Vision as a Service**

IBM PowerAI Vision provides tools and interfaces for business analysts, subject matter experts, and developers without any skill in deep learning technologies to begin using deep learning. The tools assist user to focus on rapidly identifying datasets, labeling them, and building models for inference.

**If you want to take a test drive**

→ Register for a 3-day trial of PowerAI Vision

**If you have a Nimbix Cloud account**

→ Register for access (Search for PowerAI Vision)

**If you do not have a Nimbix Cloud account**

→ Register for access (Fill out the form to request access)
PowerAI Vision sample training
PowerAI Vision sample training
PowerAI Vision sample testing

Upload a picture to classify:

Or input image URL to classify:


Result:

```
golfcart: 0.98510
```
Watson Cognitive

Language Translator

Via IBM Cloud

https://console.bluemix.net/catalog/services/language-translator

IBM Developer
Watson API Demos

https://console.blue mix.net/developer/w atson/starter-kits
Integrating AI

- Watson Cognitive API
  - Language Translation
  - Speech (s2t, t2s)
  - Visual Recognition
  - Discovery
  - ...

IBM Watson Cognitive API access

Image of the IBM Watson catalog with various AI services and features listed, including Watson Assistant, AI OpenScale, Compare Comply, Discovery, Language Translator, Natural Language Classifier, Natural Language Understanding, Personality Insights, Speech to Text, Text to Speech, Tone Analyzer, and Visual Recognition.
IBM Watson Internet of Things Platform

Quickstart

No sign-up required to see how easy it is to connect your device to Watson IoT Platform and view live sensor data.

I've seen my data, what next?

Use your device in an application created with IBM Bluemix.

Click here for more details.

Go to your Bluemix account

SIGN UP

LOG IN

Note: If you sign up for trial use...
IBM Watson Internet of Things Platform

```shell
$ curl "127.0.0.1:1880/iot?temp=30&humid=88.5&time=14:03:22"
{
  "d":
  [
    "temperature": 30
  , "humidity": 88.5
  , "timestamp": "14:03:22"
  ]
}$
```
Thank you

ibm.com/developerworks/library/
twitter.com/rcruicks
github.com/rcruicks
github.com/IBMCodeLondon
developer.ibm.com
IBMi and the open source ecosystem