## **W9 Labeling Instructions**

#### **Evaluation Set Requirements**

In order to do fair and thorough evaluation of the model, the evaluation set should take the following dimensions into consideration

- 1. **Revisions:** Documents should be in English for both (Rev. 10-2018, Rev. 11-2017) revisions.
- 2. Size: It is recommended to have 500+ documents for each evaluation set.
- 3. **Template Diversity:** The documents should be diverse, e.g. different templates, issue year, different sources, states (if applicable) ... etc.
- 4. **Value Diversity:** Documents should capture all possible values. E.g. documents should cover all checkbox options for "Federal Tax Classification". Same applies to all ENUM or optional entities.
- 5. **Handwritten:** It is preferred to separate handwritten documents from typed ones (i.e. have 2 separate evaluation sets) and report metrics for each.

#### **Processor Version**

These instructions are specific for W9 Processor version:

"Google Release Candidate 2022-06-23"

OV	ERVIEW DATASET	EVALUATE	MANAGE VERSIONS HUMAN-IN-THE-LOOP		
Version		_	Maximize F1 score		
Ŧ	〒 Filter Type to filter           Google Release Candidate 2022-06-23           Google default		No test dataset exists for this processor yet. You need to annotate a test dataset in order to evaluate this version.		
Labe			VIEW INSTRUCTIONS		
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	Google Default Next V2 (De	efault)			
			F1 score 😧		
			Precision 🕜 👘		
			Recall 😧 -		
			Last evaluated -		
			Test documents -		
			Evaluated documents -		
			Invalid documents 🚱 👘		
			Failed documents 😧 -		

#### **Entity List**

Field	Description	Base Type
name		string
business_name		string
address		string
city_state_zip		string
account_numbers		string
Itc_tax_classification		string
federal_tax_classification_other	Text field that is usually populated when "Other" checkbox option is selected.	string
exempt_payee_code		string
exempt_fatca_code		string
ssn	Value should be composed of digits only.	number
ein	Value should be composed of digits only.	number
has_signature	Enum: YES, NO (Case Sensitive)	string (enum)
has_signature_date	Enum: YES, NO (Case Sensitive)	string (enum)
form_revision_date		string
federal_tax_classification	Checkbox with 7 options one of them should be selected. Enum (Case Sensitive): IndividualsoleproprietororsinglememberLLC, CCorporation, SCorporation, Partnership, Trustestate, Limitedliabilitycompany, Other	string (enum)

*Note:* There will be zero or one instance of each entity.



## General Labeling Instructions

#### **Occurrence** Type

There are 4 occurrence types which restricts the number of annotations for each entity:

- **OPTIONAL ONCE**: Entity can be present zero or multiple times but should have one unique value.
- **OPTIONAL MULTIPLE**: Entity will appear zero or multiple times and with different values.
- **REQUIRED\_ONCE**: Entity can be present once or multiple times but should have one unique value.
- **REQUIRED\_MULTIPLE**: Entity will appear once or multiple times and with different values.

All W9 form entities belongs to any of the occurrence type mentioned above .

#### **Optical Character Recognition (OCR) Errors**

Drawing bounding boxes around entities will automatically populate a text captured through OCR (Optical Character Recognition). In some cases, the captured text is not accurate and doesn't reflect what is on the page, especially for documents that are blurry or of low resolution. These values should be corrected manually through "Value" input text.

#### **Bounding Box Annotation**

Bounding boxes should fit the correct text as much possible:

- Avoid overlapping bounding boxes. This can be tricky when values are close to each other.
- Avoid oversized boxes which incorporates background artifacts such as table borders.



Incorrect Annotation: Bounding boxes are overlapping





Incorrect Annotation: Bounding boxes oversized

#### **Case Sensitivity**

DocAl evaluation is case sensitive and can affect the final evaluation. While annotation please be aware to fix any casing issues generated by OCR.

Please note that ENUM values are also case sensitive and the values should be fixes as listed in the Entity List slide.

Examples:

- "John doe" != "John Doe"
- "Ccorporation" != "CCorporation"

#### **Numbers**

Numbers and Account Numbers such as SSN and EIN should only be composed of digits. In the example below, the OCR captured extra dashes and spaces that should be manually removed.



### Money

For money entries the annotation bounding box and value text should include the currency if present on the document.

If the document contains currency with no values, then annotations could be omitted, as shown in the example on the bottom right.

	This Quarter	Year To Date	Since Issue Date 1
Beginning Value on 09/28/2018	\$201,931.64		
Total Premium	\$0.00	\$4,000.00	\$146,388.89
Total Withdrawals	\$0.00	\$0.00	\$0.00
Total Tax Withheld	\$0.00	\$0.00	
Net Change	(\$23,104.00)	(\$15,683.48)	
Ending Value <sup>2</sup> on 12/31/2018	\$178,827.64		

FATCA filing requirement	12 State tax withheld \$	13 State/Payer's state no.	14 State distribution \$
	\$		\$
Date of Payment	15 Local tax withheld \$	16 Name of locality	17 Local distribution \$
	\$		\$

#### **Empty Values**

In general, if the value does not exist in the form then there is no need to label it. In the example below ltc\_tax\_classificationshould not be annotated since there is no value present in the designated field.

It is also possible to annotate empty entities (with empty values) but that will not affect the final metrics.



*Note:* There is one exception to this rule, and will be explained in the next slide.

#### YES/NO Values

Example 1: YES

When annotating ENUM types that includes YES/NO options such as has\_signature, and has\_signature\_date, a bounding box must be drawn at that field and the value should be changed to either "YES" if the value exists or "NO" if it does not (*Note: these values are case sensitive*). This will allow the groundtruth values to match the processor predicted output. Examples:

# <form>

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100_019101010_0010		de not leave this line blank.	The second
Value	Elizabeth Samuel-David 2 Business name/deregarded with name, if different from above		1
NO K	stuart-lee		
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	a damparated term the owner should check the appropriate loss for the     Other tree methodoms > Christopher Alley     S Advent hundres, street, and act, or such no 15ee instructions.		
	1 1891 Brooke Street	Requester's name and address (optiona)	
	6 City, state, and ZP code Bound Lake, IL 60073		
	7 Lat account numbers( here (optional) 2537910DA		
	Taxpayer Identification Number (TIN)		
	rever. TiN in the appropriate box. The TIN provided must match the run course stimolding. For individuals, this is gamerally your social security ru sident area, sole proprietor, or disregarded entity, see the instructions for	ame pixen on line 1 to anxist umber (SSN), However, for a Planti, liefer, For other Planti, liefer, For other	
	solere and sole proprietor, or obsegarate entry, see the instructions to attice, it is your employer identification number (EIN). If you do not have it	a number, see Provide get a	
	Me. If the account is integre than one name, see the instructions for line under To Give the Requester for guidelines on whose number to enter.	1. Also see What Name and Employer identification number	
		5 6 - 4 6 6 7 5 6 8	
0	Dertification Der penalties of persury. I cently thet:		
2.	The number shown on this form is my correct tax and the identification num I am not subject to backup withholding because: (a) I am nummer from to Service (RRS) that I am subject to backup withholding as a noted of a fail no increase subject to backup withholding, and	niber (or I am waiting for a number to be issued to real; and adv.p withholding, or (b) I have not been notified by the internal Revenue use to report all interest or dividends; or (c) the IRS has notified me that I am	
3.	Fam a U.S. citizen or other U.S. person (defined below); and		
	The FATCA code(s) entered on this form (if any) indicating that I am exer artification instructions. You must cross out item 2 above if you have been	settled by the IPS that you are connectly achieved to have an etheral for hermine	
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	ieneral Instructions	<ul> <li>Form 1099-CIV (dividends, including those from stocks or mutual funds)</li> </ul>	
20	ction references are to the internal Revenue Code unless otherwise and	<ul> <li>Form 1099-MESC (various types of income, prizes, awards, or gross proceeds)</li> </ul>	
	dure developments. For the latest information about developments lated to Form W-9 and its instructions, such as legislation enacted for they were published, go to www.its.gov/FormW9.	<ul> <li>Form 1099-0 (ritock or mutual fund sales and certain other transactions by brokers)</li> </ul>	
	urpose of Form	Form 1099-5 (proceeds from real estate transactions)     Form 1099-K (merchant card and third party network transactions)	
2	insideridual or entity (Form W-9 requester) who is required to file an	Form 1098 (home montgage interest), 1096-E (student loan interest), 1098-T fultion)	
	entification number (TIN) which may be your social security number	Form 1099-C (canceled deb/)	
	speper identification number (ATR), or employer identification number No. to report on an information return the amount paid to you, or other	<ul> <li>Form 1009-A (acquisition or abandonment of secured property) Use Form VF-9 only if you are a U.S. person (including a resident</li> </ul>	

#### Example 2: NO

#### **Checkbox Values For Evaluation On Pretrained Versions**

Checkbox entities are tricky to annotate. The annotation required for evaluation is different than the annotation for training.

For Evaluation: Checkbox annotation needs to be drawn around the option that is *selected*. Then the *Value* should be changed to one of the ENUM options listed in the Field Entity List slide (the value is case sensitive)

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	5     Individual/sole proprietor or     C Corporation     S Corporation     Partnership     Individual/sole proprietor       5
	Limited liability company. Enter the tax classification (C=C corporation, P=Partnership) C Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner.
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	S Address (number, street, and apt. or suite no.) See instructions.     Hequester's name and add     See Instructions.
	6 City, state, and ZIP code
	West Palm Beach, FL 33404

Example 2: Trust/estateoption is selected

Example 1: Other option is selected

#### Checkbox Values For Training & Eval on uptrain - 1/2

For training, checkbox entities should be added to the dataset schema first by following the steps:

- 1. Click on "Edit Schema" button.
- 2. Click on "Create Label"
- 3. Type a suitable name, change "Data Type" to "Checkbox" and click "Create".
- 4. Repeat for all checkbox options.





#### Checkbox Values For Training & Eval on uptrain - 2/2

During annotation for training, all checkbox options should be labeled with the correct value as shown in the example below:

chk_c_corp	
chk_partnership	
chk_s_corp	
chk_trust_estate	
chk_sole_proprietor	
chk_llc	$\checkmark$
chk_other_form	

nternal Revenue Service	▶ ▶	Go to www.irs.go	/FormW9 for instru	uctions and the late	est information.					
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	e proprietor or er LLC	C Corporation	S Corporation	Partnership	Trust/estate					
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