Paystub 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 across all the variations.
- 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.
- 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 Paystub Processor version:

"Pretrained-paystub-v2.0-2022-07-22" (Release Candidate V2)

~	dum	my_paystub	O DISABLE P	ROCESSOR				
PRO	CESSOR	DETAILS TI	RAIN EVALUAT	E & TEST	MANAGE VER	SIONS	HUMAN-IN-THE-LOOP	
Rel	default	ndidate v2	process documents por UNDEPTOY COM		FRESH TABLE			
ᆕ Fi	ter Filt	ter versions						
	•	Version ID	\checkmark	Created 🗸		Status	Name	F1 score 🕜
	۲	pretrained-payste	ub-v2.0-2022-07-22	Aug 10, 2022	2, 10:57:25 AM	Deployed	Release Candidate v2	RUN EVALUATION FIRST
	0	pretrained		Aug 5, 2022,	4:27:32 PM	Deployed	Google default	RUN EVALUATION FIRST
	0	pretrained-next-v	2	Aug 5, 2022,	4:27:32 PM	Deployed	Google Default Next V2	RUN EVALUATION FIRST
	9	pretrained-payste	ub-v2.0-2022-05-17	Aug 5, 2022,	4:27:32 PM	Deployed	Release Candidate	RUN EVALUATION FIRST
	0	pretrained-next		Aug 5, 2022,	4:27:32 PM	Deployed	Google Default Next	RUN EVALUATION FIRST

Entity List

Field	Description	Base Type
employee_name	Employee name.	string
employee_address	Employee address.	string
ssn	Social Security Number. Note: it could be masked for privacy reasons. Please label it completely. E.g. XXX-XX-1234 or ***-**-1234.	string
employer_name	Employer name.	string
employer_address	Employer address	string
pay_date	Date when employees receive their checks or direct deposits.	datetime
start_date	Start date of the payroll period.	datetime
end_date	Last date of the payroll period	datetime
page_number	Page number of the Payslip.	string
gross_earnings	Gross salary for the current period. It includes the basic salary and allowances, before deductions like professional tax, TDS, provident fund, etc.	money
gross_earnings_ytd	Gross salary since the start of the year.	money
net pay	Take-home pay for the current period. It is the amount employees earn after all payroll deductions are subtracted from their gross pay.	money
net_pay_ytd	Net pay since the start of the year.	money

Entity List, Continued..

Field	Description	Base Type
	Filing status for federal taxes. The five filing statuses are: single, married filing jointly, married filing separately, head of household, and gualifying widow(er) with dependent	
federal_marital_status	child.	string
	Withholding allowances for federal taxes. It affects how much money will be withheld	
federal_allowance	from pay.	number
federal additional tax	Additional tax amount paid as federal taxes.	money
state_marital_status	Filing status for state taxes.	string
	Withholding allowances for state taxes. It affects how much money will be withheld	
state_allowance	from pay.	number
state_additional_tax	Additional tax amount paid as state taxes.	money
	Account number used for direct deposit.	
direct deposit item/employee account number	Note: it could be masked for privacy reasons. Please label it completely. E.g. "XXXX-6789"	strina
	L.g. 700000105	Stillig
direct_deposit_item/direct_deposit	employee_account_number (Added in "Google default next")	money
earning_item/earning_type	Earning type, such as wages, salaries, and overtime pay.	string
earning item/earning rate	Net rate of hourly pay.	money
earning_item/earning_hours	Number of hours during which the employee receives wages or salary.	number
earning item/earning this period	Earning amount during the pay period.	money
earning item/earning ytd	Earning amount since the beginning of the year.	money

Entity List, Continued..

Field	Description	Base Type
deduction item/deduction_type	Deduction type, such as pre tax deductions or after-tax deductions.	string
deduction_item/deduction_this_period	Deduction amount during the pay period.	money
deduction_item/deduction_ytd	Deduction amount since the beginning of the year.	money
tax_item/tax_type	Type of tax incurred on tax item	string
tax_item/tax_this_period	Tax withheld during the pay period.	money
tax_item/tax_ytd	Tax withheld since the beginning of the year.	money



Paystubs labeling rules

Please see the previous slide for examples.

1- Include the "\$" sign in amounts (e.g. gross_pay) when available.

2- Do not include phone or fax numbers in addresses.

3-Benefits tables should not be labeled.

4- While taxes are also deductions, please make sure to distinguish between them. They might be in the same table.

5- "Statutory Deductions" are taxes.

Federal and State Tax Withholding 1/2

THIS IS NOT A REAL CHECK

EARNINGS	HOURS	RATE	CURRENT	YEAR TO DATE
REGULAR EARNING	62.90	\$18.3000	\$1,151.07	\$18,800.17
OVERTIME EARN			\$0.00	\$169.66
LUMP SUM HRLY			\$0.00	\$600.00
OVERTIME/I NCT			\$0.00	\$8.44
SAMS\$HARE			\$0.00	\$1,261.40
PROT PTO USED	8.00	\$18.3000	\$146.40	\$420.90
PTO PAY	8.00	\$18.3000	\$146.40	\$1,391.3
PTO PAYOUT			\$0.00	\$1,040.52
WRKDHRS	62.90			
Total			\$1,443.87	\$23,692.40

	YEAR TO
CURRENT	DATE
\$0.00	\$286.81
\$85.90	\$1,418.30
\$20.09	\$331.70
\$50.00	\$620.00
\$155.99	\$2,656.81
	\$0.00 \$85.90 \$20.09 \$50.00

		YEAR TO
DEDUCTIONS	CURRENT	DATE
INS LIFE	\$3.21	\$45.05
INS DEP LIFE	\$5.24	\$73.57
INS STD	\$8.95	\$146.86
INS LTD	\$12.71	\$208.50
INS MED U *	\$29.20	\$407.69
INS DEN U *	\$19.40	\$271.59
INS AD&D U *	\$2.49	\$34.85
401K *	\$28.88	\$473.86
GEN 401K LOAN	\$65.67	\$919.38
ACCIDENT *	\$1.80	\$25.20
INS VIS *	\$5.52	\$77.27
Total	\$183.07	\$2,683.82



Federal and State Tax Withholding 2/2

1) If there is no mention of "State" or "Fed", assume it is federal.

2) Instead of "State", there might be the name of the state (e.g. NY, FL, ...)

3) Do not label "Local Taxes"

4) Status, allowances and additional taxes could be grouped.

Example:

In "M - 0", "M" is the marital status and "0" is the allowance.

In "M/0/\$0", "\$0" are additional withholdings.



Direct deposit 1/4

CO. FILE DEPT. CLOCK VCHR, NO. 036 789 351243 703420 30144688827 1

Earnings Statement

AD?

total to date

672.64

Walker LLC 87 Christopher Expressway Washington DC, 20001

Taxable Marital Status: S

Exemptions/Allowances:

Federal:

Period Beginning: Period Ending: Pay Date:

05/23/2020 06/08/2020

06/15/2020 Beth Douglas

Your federal taxable wages this period are

this period

88.42

8 Villarreal Underpass Cp. Indianapolis IN, 46201

\$2,895.23

401K Er Match

Totl Hrs Worked

Important Notes

BASIS OF PAY: HOURLY

COMPANY PH# 554-585-8118

Information

Other Benefits and

	FL:	No State	e Income Tax	
Earnings	rate	hours	this period	year to date
Regular	8,5600	88.42	756.88	7,337.38
Bonus			257.94	1,845.24
Commission			1,837,51	25,529,91
Holiday Sales	15,0000	8.00	120.00	360.00
Ot-Sales	15,0000	.50	7.50	148.65
Float Hol Sales				120.00
Hol Wrk Sales				126.30
Ot Plus Shift				89,25
Pto-Sales				1,020.00
Shift Diff				36.00
	Gross Pay		\$2,979.83	36,612.73
Deductions	Statutory			
	Federal Incom	e Tax	-191 .21	2,939.04
	Social Security	/ Tax	-183 .20	2,252.94
	Medicare Tax		-42.85	526,90
	Other			
	Pto Purchs		-25 .00*	275.00
	401K %		-59.60*	732,24
	Net Pay		\$2,477.97	
	Checking o		-2,477.97	
	Net Check		\$0,00	



Google

Direct deposit 2/4

When multiple direct deposits are listed, or when you see 1 direct deposit and a total, <u>do not label the total.</u>



Direct deposit 3/4

Direct deposits can be in a check or inside a text.

Pay Amount

THREE THOUSAND ONE HUNDRED SIXTY-EIGHT AND 58/100*****



direct_deposit_item/direct_deposit



direct_deposit_item/direct_deposit

Direct deposit 4/4

Direct deposits can be inside a table.

Deductions	Current	YTD	Employer	Employer YTD
FICA	181.14	3557.37	181.14	3557.37
MEDICARE	42.36	831.97	42.36	831.97
MED INS			1595.62	17088.47
DENTAL	//		125.69	1349.65
VISION	//		3.19	34.28
FED INCOME	486.20	9050.50		
FRS-HB	68.75	1450.71	583.92	12066.14
CELL PHONE		18.00		
UNITED WAY	1.00	21.00		
DEPOSITS:				
DIRDEPNET SUNTRUST	1642.24	30947.09		
DIRDEP\$2 WELLS FARGO BANK	100.00	2300.00		
DIRDEP\$1 SUNTRUST	400.00	9200.00		

direct_deposit_item/direct_deposit

Earning Items 1/3

<u>This is a benefit</u> table and should not be labeled.



Confidential + Proprietary

Earning Items 2/3

We are not interested in the Hours year to date, so we do not label that column.



Confidential + Proprietary

Earning Items 3/3

Sometimes, "current" and "year-to-date" are in 2 different tables.



Google

Confidential + Proprietary

Deduction items 1/4

NOTE: Do not label the subsection totals such as "Pre-tax deductions" and "Post-tax deductions" rows.

	1/6/2	Current 2019 - 1/19/20	19		۲۲ As of 1/:	2019
	Hours/Units	Rate		Amount	Hours/Units	Amount
Earnings	80.00		\$	2,387.69	160.00	\$ 4,695.38
Regular	80.00		\$	2,307.69	120.00	\$ 3,461.53
Holiday					16.00	\$ 461.54
Vacation					24.00	\$ 692.31
Phone Allowance			\$	80.00		\$ 80.00
Taxable Benefits			\$	5.12		\$ 10.24
Group Term Life			\$	5.12		\$ 10.24
Pre-Tax Deductions			\$	71.63		\$ 140.86
401K %			\$	71.63		\$ 140.86
Taxes			\$	501.16		\$ 979.13
Fed W/H			\$	318.11		\$ 619.15
FICA EE			\$	148.36		\$ 291.75
Fed MWT EE			\$	34.69		\$ 68.23
Post-Tax Deductions			\$	185.15		\$ 370.30
Post Tax Vision			\$	9.25	[\$ 18.50
401K Loan 2			\$	154.73		\$ 309.46
MetLife Law			\$	7.62	[\$ 15.24
PRU Opti AD&D			\$	0.06		\$ 0.12
PRU Optnl Life			\$	1.02	[\$ 2.04
Disability			\$	11.59		\$ 23.18
PRU Spouse Life			\$	0.46		\$ 0.92
PRU Depdnt Life			\$	0.42		\$ 0.84

deduction_item/ deduction_type

deduction_item/ deduction_this_period

deduction_item/ deduction_ytd

Contidential + Proprietary

Deduction items 2/4

Only label deductions paid by the employee and not the employer.



Deduction items 3/4

Do not label deductions summary. The same applies to taxes and earnings.



Deduction items 4/4

Sometimes, deductions and taxes are in the same table.



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Tax items 1/4

NOTE: Do not confuse "Taxable Wages" with "Taxes". "Taxable wages" tables are not taxes.

Taxable Wag	es	
Description	Amount	YTD
OASDI - Taxable Wages	4,540.52	8,970.03
Medicare - Taxable Wages	4,540.52	8,970.03
Federal Withholding - Taxable Wages	4,540.52	8,970.03

These are "taxable wages" and not taxes. Do not label as taxes.

E mploy Description	Amount	YTD
OASDI	281.51	556.14
Medicare	65.84	130.07
Federal Withholding	596.28	1,164.54
Employee Taxes	943.63	1,850.75

tax_item/ tax_type

tax_item/ tax_this_period

tax_item/ tax_ytd Do not label the last row (total)22

Google

Tax items 2/4

Sometimes, tax exemption information can be inside tax_item/tax_type. Please draw boxes inside the description text.

	🖌 state_marital_status	state_allowance		
	00.00		1,000120	50,001121
			EEE OO	C 155 00)
75 15 TSP-FERS			555.00	6,455.00
*AMT BASED ON FIXED AMT 75 30 RETIREMENT FERS - CBP			52 4010	E 45 17)
			52.40	545.17
75 31 ROTH TSP-FERS			75.00	450.00
76 SOCIAL SECURITY (OASDI)			281.69	3,102.36
77 FEDERAL TAX EXEMPTS S			615.05	3,859.04
78 ST TAX CA EXEMPTS S 01			265.20	1,667.43
81 FEGLI- COVERAGE \$ \$130,000			19.50	191.85
81 09 LIFE INS-COVERAGE\$			1.50	15.00
83 FEHBA - ENROLL CODE 111			75.94	757.18
83 10 DENTAL PLAN			15.82	159.03
87 UNION/ASSOCIATION DUES 10 0111			23.53	233.83
88 40 TSP LOAN REPAY (FED)			35.16	347.50
88 40 TSP LOAN REPAY (FED)			308.05	3,080.50
97 MEDICARE TAX WITHHELD			65.88	725.55
** ** ********************************			2,389.72	21,589.44

Tax items 3/4

Summaries and totals should not be labeled.



Name	Le PLC Company	39 Williams	Trace DI. Suite627 Mor Employee ID	ntpelier ID, 83254 +1 (Pay Period Begin	(215) 407-8957 Pay Period End	Check Date	Check Number
Tiffany Hill	Le PLC		706514	09/01/2019	09/15/2019		
		Gross Pay	Pre Tax Deductions	Employee Ta	axes PostTax	Deductions	Net Pay
Current		3,044.34	265.20	63	2.99	0.00	2,146.15
YTD		54,316.61	4,447 52	11,53	4.07	0.00	38,335.02

Tax items 4/4

These are taxes paid by the employer and not the employee. Do not label them.

Employer Taxes

Company Tax	Current	Year To Date
Social Security	\$124.00	\$2,232.00
Medicare	\$29.00	\$522.00
FUTA	\$0.00	\$42.00
Florida State Unemployment Tax	\$0.00	\$189.00

Tax items and Deduction Items

Sometimes, taxes and deductions are mixed.

<u>Taxes:</u>

- "Federal Tax Exempts SS"
- "ST Tax Exempts S 01"
- "Medicare Tax withheld".

The rest are deductions. In particular, the 2 lines of "TSP Loan Repay" are deductions and not taxes.

		00.00	1000120	00,00 112 1
75 15	TSP-FERS		555.00	6.455.00
	*AMT BASED ON FIXED AMT			
75 30	RETIREMENT FERS - CBP		52.40	545.17
75 31	ROTH TSP-FERS		75.00	450.00
76	SOCIAL SECURITY (OASDI)		281.69	3,102.36
77	FEDERAL TAX EXEMPTS SS		615.05	3,859.04
78	ST TAX CA EXEMPTS S 01		265.20	1,667.43
81	FEGLI-COVERAGE \$ \$130,000		19.50	191.85
	LIFE INS-COVERAGE\$		1.50	15.00
83	FEHBA - ENROLL CODE 111		75.94	757.18
83 10	DENTAL PLAN		15.82	159.03
87	UNION/ASSOCIATION DUES 10 0111		23.53	233.83
88 40	TSP LOAN REPAY (FED)		35.16	347.50
	TSP LOAN REPAY (FED)		308.05	3,080.50
97	MEDICARE TAX WITHHELD		65.88	725.55
** **	**************************************		2,389.72	21,589.44

Page Number

It is typically at the bottom right of the page. Please label:

- on every single page where it appears.
- <u>without the word "page".</u> Please only label the number.
- the total if available. For example: "1/2", "1 of 2", etc.



page_number

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.

<u>Important: always label every single occurrence of every entity, regardless of the</u> <u>occurrence type and even if the different occurrences have the same value.</u>

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.



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.

Examples:

- "yes" != "Yes"
- "no" != "No"

Numbers

Numbers such **federal_allowance** should only be composed of digits. In the example below, the OCR captured **extra spaces/special characters** 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 ² 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

If a value does not exist or is empty in the form, then it should not be labeled. In the example below federal_additional_tax, and state_additional_tax should not be annotated since there is no value present in the designated field.

Statement of Earnings For:		Susan (Olson				
Employee #: Clock Number:	58	Division: Department:	950	Period Begin: Period End:	4/27/2020 5/3/2020	Check Date:	5/8/2020
SSN:	xxx-xx-6997	Federal Filing:	M	Exemptions:	2	Additional Tax:	
Company Id:	7791VQ70	State Filing:		Exemptions:	0	Additional Tax:	