

Midterm Quiz 2: Data Analysis using Pandas

Phase	Activity	Code and Output																																																																																																			
Import	Converting the csv file	<div><div><div>Jupyter</div><div>Patricio_MidtermQuiz2</div><div>Last Checkpoint: 8 minutes ago</div></div><div><div>File</div><div>Edit</div><div>View</div><div>Run</div><div>Kernel</div><div>Settings</div><div>Help</div></div><div><div>Trust</div></div><div><div><div>+</div><div>✖</div><div>📄</div><div>🔍</div><div>▶</div><div>⏮</div><div>⏭</div><div>Code</div><div>▼</div></div><div>JupyterLab</div><div>Python 3 (pykernel)</div></div></div> <div><pre>[3]: import pandas as pd RT_10T2022 = pd.read_csv("RT_10T2022.csv") [4]: RT_10T2022.head()</pre><table><tr><th>[4]:</th><th>bwd_data_pkts_tot</th><th>...</th><th>active_std</th><th>idle_min</th><th>idle_max</th><th>idle_tot</th><th>idle_avg</th><th>idle_std</th><th>fwd_init_window_size</th><th>bwd_init_window_size</th><th>fwd_last_window_size</th></tr><tr><td>3</td><td>...</td><td>0.0</td><td>2.972910e+07</td><td>2.972910e+07</td><td>2.972910e+07</td><td>2.972910e+07</td><td>0.0</td><td>64240</td><td>26847</td><td>502</td></tr><tr><td>3</td><td>...</td><td>0.0</td><td>2.985530e+07</td><td>2.985530e+07</td><td>2.985530e+07</td><td>2.985530e+07</td><td>0.0</td><td>64240</td><td>26847</td><td>502</td></tr><tr><td>3</td><td>...</td><td>0.0</td><td>2.984215e+07</td><td>2.984215e+07</td><td>2.984215e+07</td><td>2.984215e+07</td><td>0.0</td><td>64240</td><td>26847</td><td>502</td></tr><tr><td>3</td><td>...</td><td>0.0</td><td>2.991377e+07</td><td>2.991377e+07</td><td>2.991377e+07</td><td>2.991377e+07</td><td>0.0</td><td>64240</td><td>26847</td><td>502</td></tr><tr><td>3</td><td>...</td><td>0.0</td><td>2.991470e+07</td><td>2.991470e+07</td><td>2.991470e+07</td><td>2.991470e+07</td><td>0.0</td><td>64240</td><td>26847</td><td>502</td></tr></table></div>	[4]:	bwd_data_pkts_tot	...	active_std	idle_min	idle_max	idle_tot	idle_avg	idle_std	fwd_init_window_size	bwd_init_window_size	fwd_last_window_size	3	...	0.0	2.972910e+07	2.972910e+07	2.972910e+07	2.972910e+07	0.0	64240	26847	502	3	...	0.0	2.985530e+07	2.985530e+07	2.985530e+07	2.985530e+07	0.0	64240	26847	502	3	...	0.0	2.984215e+07	2.984215e+07	2.984215e+07	2.984215e+07	0.0	64240	26847	502	3	...	0.0	2.991377e+07	2.991377e+07	2.991377e+07	2.991377e+07	0.0	64240	26847	502	3	...	0.0	2.991470e+07	2.991470e+07	2.991470e+07	2.991470e+07	0.0	64240	26847	502																																
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Describe	Describe the csv File	<div><pre>[10]: RT_10T2022.describe()</pre><table><tr><th></th><th>no</th><th>id.orig_p</th><th>id.resp_p</th><th>flow_duration</th><th>fwd_pkts_tot</th><th>bwd_pkts_tot</th><th>fwd_data_pkts_tot</th><th>bwd_data_pkts_tot</th><th>fwd_pkts_per_sec</th><th>bwd_pkts_per</th></tr><tr><td>count</td><td>123117.000000</td><td>123117.000000</td><td>123117.000000</td><td>123117.000000</td><td>123117.000000</td><td>123117.000000</td><td>123117.000000</td><td>123117.000000</td><td>1.231170e+05</td><td>1.231170e</td></tr><tr><td>mean</td><td>37035.089248</td><td>34639.258738</td><td>1014.305092</td><td>3.809566</td><td>2.268826</td><td>1.909509</td><td>1.471218</td><td>0.820260</td><td>3.518063e+05</td><td>3.517620e</td></tr><tr><td>std</td><td>30459.106367</td><td>19070.620354</td><td>5256.371994</td><td>130.005408</td><td>22.336565</td><td>33.018311</td><td>19.635196</td><td>32.293948</td><td>3.707645e+05</td><td>3.708015e</td></tr><tr><td>min</td><td>0.000000</td><td>0.000000</td><td>0.000000</td><td>0.000000</td><td>0.000000</td><td>0.000000</td><td>0.000000</td><td>0.000000</td><td>0.000000e+00</td><td>0.000000e</td></tr><tr><td>25%</td><td>6059.000000</td><td>17702.000000</td><td>21.000000</td><td>0.000001</td><td>1.000000</td><td>1.000000</td><td>1.000000</td><td>0.000000</td><td>7.454354e+01</td><td>7.288927e</td></tr><tr><td>50%</td><td>33100.000000</td><td>37221.000000</td><td>21.000000</td><td>0.000004</td><td>1.000000</td><td>1.000000</td><td>1.000000</td><td>0.000000</td><td>2.467238e+05</td><td>2.467238e</td></tr><tr><td>75%</td><td>63879.000000</td><td>50971.000000</td><td>21.000000</td><td>0.000005</td><td>1.000000</td><td>1.000000</td><td>1.000000</td><td>0.000000</td><td>5.242880e+05</td><td>5.242880e</td></tr><tr><td>max</td><td>94658.000000</td><td>65535.000000</td><td>65389.000000</td><td>21728.335578</td><td>4345.000000</td><td>10112.000000</td><td>4345.000000</td><td>10105.000000</td><td>1.048576e+06</td><td>1.048576e</td></tr></table><div>8 rows x 11 columns</div></div>		no	id.orig_p	id.resp_p	flow_duration	fwd_pkts_tot	bwd_pkts_tot	fwd_data_pkts_tot	bwd_data_pkts_tot	fwd_pkts_per_sec	bwd_pkts_per	count	123117.000000	123117.000000	123117.000000	123117.000000	123117.000000	123117.000000	123117.000000	123117.000000	1.231170e+05	1.231170e	mean	37035.089248	34639.258738	1014.305092	3.809566	2.268826	1.909509	1.471218	0.820260	3.518063e+05	3.517620e	std	30459.106367	19070.620354	5256.371994	130.005408	22.336565	33.018311	19.635196	32.293948	3.707645e+05	3.708015e	min	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000e+00	0.000000e	25%	6059.000000	17702.000000	21.000000	0.000001	1.000000	1.000000	1.000000	0.000000	7.454354e+01	7.288927e	50%	33100.000000	37221.000000	21.000000	0.000004	1.000000	1.000000	1.000000	0.000000	2.467238e+05	2.467238e	75%	63879.000000	50971.000000	21.000000	0.000005	1.000000	1.000000	1.000000	0.000000	5.242880e+05	5.242880e	max	94658.000000	65535.000000	65389.000000	21728.335578	4345.000000	10112.000000	4345.000000	10105.000000	1.048576e+06	1.048576e
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Data types	data	<div>RT_IOT2022.dtypes</div> <div>noint64 id.orig_pint64 id.resp_pint64 protoobject serviceobject ... idle.stdfloat64 fwd_init_window_sizeint64 bwd_init_window_sizeint64 fwd_last_window_sizeint64 Attack_typeobject Length: 85, dtype: object</div>

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