

neural-sketch-coords.sty

Simple coordinate system for neural-sketch

Vincenzo Buono

March 26, 2025

```
implementation                                     ***package
1 \ExplSyntaxOn
2
3 % ~~~~~
4 % Global counter -
5 % to track auto-increment counters
6 % ~~~~~ <<<
7 \int_new:N \g__nsk_coord_count_int
8
9
10 % ~~~~~
11 % Main nsk / coord Primitive
12 % ~~~~~ <<<
13 \keys_define:nn {nsk / coord}
14 {
15   % ref-id ~~~~~ <<<
16   id .tl_set:N = \l_nsk_coord_id_tl,
17   id .initial:n = { },
18
19   % coords ~~~~~ <<<
20   x .fp_set:N = \l_nsk_coord_x_fp,
21   x .initial:n = {0},
22   y .fp_set:N = \l_nsk_coord_y_fp,
23   y .initial:n = {0},
24
25   at .tl_set:N = \l_nsk_coord_at_tl,
26   at .initial:n = { },
27   at .default:n = { },
28
29   % Let the user specify the "pos" usage from TikZ [right=1cm of something]:
30   pos .tl_set:N = \l_nsk_coord_pos_tl,
31   pos .initial:n = { },
32
33   shift-x .dim_set:N = \l_nsk_coord_shift_x_dim,
34   shift-x .initial:n = {0pt},
35   shift-x .default:n = {0pt},
36
37   shift-y .dim_set:N = \l_nsk_coord_shift_y_dim,
38   shift-y .initial:n = {0pt},
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39 shift-y .default:n = {0pt},
40
41 % markers ~~~~~ <<<
42 marker .tl_set:N = \l_nsk_coord_marker_tl,
43 marker .initial:n = {none},    % 'none' = disabled
44 marker .default:n = {none},
45
46 marker-color .tl_set:N = \l_nsk_coord_marker_color_tl,
47 marker-color .initial:n = {red},
48 marker-color .default:n = {red},
49
50 marker-size .dim_set:N = \l_nsk_coord_marker_size_dim,
51 marker-size .initial:n = {1mm},
52 marker-size .default:n = {1mm},
53 }
54
55 % ~~~~~
56 % Markers
57 % ~~~~~ <<<
58 \cs_new_protected_nopar:Npn \nsk__draw_coord_marker:
59 {
60   % If marker = none, do nothing
61   % \tl_if_eq:VnT \l_nsk_coord_marker_tl { none } { \skip_0 }
62   \tl_if_eq:VnF \l_nsk_coord_marker_tl { none }
63   {
64     % rely on the node's name \l_nsk_coord_id_tl
65     \begin{scope}[shift=(\tl_use:N \l_nsk_coord_id_tl)]
66       % color = <marker-color>
67       % We'll define a local style
68       \tikzset{nskcoordmarker/.style={
69         draw=\l_nsk_coord_marker_color_tl,
70         fill=\l_nsk_coord_marker_color_tl,
71       }}
72
73       \begin{scope}[nskcoordmarker]
74
75         \str_case:VnF { \l_nsk_coord_marker_tl }
76         {
77           {o}{
78             % Draw a circle with radius= marker-size/2 or marker-size?
79             \draw circle[radius=\l_nsk_coord_marker_size_dim/2];
80           }
81           {x}{
82             % interpret marker-size as the half-diagonal
83             % so we draw lines from -(size)/2 to +(size)/2
84             \fp_set:Nn \l_tmpa_fp { \dim_to_fp:n {\l_nsk_coord_marker_size_dim}/2 }
85             \dim_set:Nn \l_tmpa_dim { \fp_to_dim:n {\l_tmpa_fp} }
86             \draw
87               (-\l_tmpa_dim, -\l_tmpa_dim) -- (\l_tmpa_dim, \l_tmpa_dim)
88               (\l_tmpa_dim, -\l_tmpa_dim) -- (-\l_tmpa_dim, \l_tmpa_dim);
89           }
90         }
91         {
92           % fallback: user gave some unknown marker?

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93      % maybe draw a small diamond or do nothing
94      \draw (0,0) node {\l_nsk_coord_marker_tl};
95  }
96
97  \end{scope}
98  \end{scope}
99  }
100 }
101
102 % ~~~~~
103 % Auto-generate an ID if user does not supply one
104 % ~~~~~ <<<
105 \cs_new_protected_nopar:Npn \nsk__coord_maybe_set_id:
106 {
107   % If the user didn't supply an ID, automatically generate one
108   \tl_if_blank:VTF \l_nsk_coord_id_tl
109   {
110     \int_gincr:N \g__nsk_coord_count_int
111     \tl_set:cn {\l__nsk_autocoord_\int_use:N \g__nsk_coord_count_int _tl}
112     { coord\int_use:N \g__nsk_coord_count_int }
113     \tl_set_eq:NN \l_nsk_coord_id_tl { \l__nsk_autocoord_\int_use:N \g__nsk_coord_count_int _tl
114   }
115   { }
116 }
117
118 % ~~~~~
119 % Phantom node Style builder
120 % ~~~~~ <<<
121 \cs_new_protected_nopar:Npn \nsk__build_coord_style:
122 {
123   % Construct the node style for the ghost coordinate
124   \tl_clear_new:N \l_tmpa_tl
125
126   % name=<id>
127   \tl_put_right:Nx \l_tmpa_tl { name=\l_nsk_coord_id_tl, }
128
129
130   \tl_if_blank:VTF \l_nsk_coord_at_tl
131   {
132     % If pos is blank, we place it at (x,y). Otherwise, we place it using [pos=...]
133     \tl_if_blank:VTF \l_nsk_coord_pos_tl
134     {
135       \tl_put_right:Nx \l_tmpa_tl { at={(\fp_use:N \l_nsk_coord_x_fp,\fp_use:N \l_nsk_coord_y_fp
136     }
137     {
138       \tl_put_right:Nx \l_tmpa_tl { \l_nsk_coord_pos_tl, }
139     }
140   }
141   {
142     \tl_put_right:Nx \l_tmpa_tl { at={(\l_nsk_coord_at_tl)}, }
143   }
144
145   % shift-x/y
146   \tl_put_right:Nx \l_tmpa_tl

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147 {
148   shift={ (\dim_use:N \l_nsk_coord_shift_x_dim, \dim_use:N \l_nsk_coord_shift_y_dim) },
149 }
150
151 % invisible node
152 \tl_put_right:No \l_tmpa_tl { draw=none, fill=none, }
153 \tl_show:N \l_tmpa_tl
154
155 % Actually create the node
156 \nsk__build_coord_style_aux:V \l_tmpa_tl
157
158 % Now draw the marker if user wants it
159 \nsk__draw_coord_marker:
160 }
161
162 % ~~~~~~
163 % Phantom node Style builder [AUX]
164 % ~~~~~~ <<<
165 \cs_new_protected_nopar:Npn \nsk__build_coord_style_aux:n #1
166 {
167   \node[#1] {};
168 }
169
170 % ~~~~~~
171 % Variant Generation :V
172 % ~~~~~~ <<<
173 \cs_generate_variant:Nn \nsk__build_coord_style_aux:n { V }
174
175
176 % ~~~~~~
177 % Public Interface
178 % - (user-facing)
179 % ~~~~~~ <<<
180 \NewDocumentCommand \nskCoord { O{} }
181 {
182   \group_begin:
183   % 1) Parse the keys
184   \keys_set:nn {nsk / coord} {#1}
185
186   % 2) Possibly auto-generate an ID
187   \nsk__coord_maybe_set_id:
188
189   % 3) Build the node style & place the coordinate
190   \nsk__build_coord_style:
191
192   % Push the current block's ID into the global sequence
193   \seq_gput_right:NV \g_nsk_block_id_history_seq \l_nsk_coord_id_tl
194
195   \group_end:
196 }
197
198 \ExplSyntaxOff

```

i/package