

JANICA KOTELIC - TRAININGSLÄUFE



Janica Kostelić ist eine der erfolgreichsten Skirennläuferinnen aller Zeiten und eine Legende des alpinen Skisports. Die kroatische Athletin wurde am 5. Januar 1982 in Zagreb geboren und erlangte weltweite Bekanntheit durch ihre beeindruckenden Leistungen auf der Skipiste.

Janica gewann insgesamt vier olympische Goldmedaillen und eine Silbermedaille, alle bei den Olympischen Winterspielen 2002 in Salt Lake City und 2006 in Turin. Damit ist sie die erfolgreichste Skirennläuferin in der Geschichte der Olympischen Spiele.

Neben ihren olympischen Erfolgen sicherte sie sich auch fünf Weltmeistertitel und gewann dreimal den Gesamtweltcup (2001, 2003, 2006). Trotz zahlreicher Verletzungen zeigte sie außergewöhnliche Entschlossenheit und bewies, dass sie zu den besten Skirennläuferinnen der Geschichte gehört. Ihre Erfolge haben den Skisport in Kroatien populär gemacht und sie zur nationalen Heldenin gemacht.



Die Idee wahr verschiedene Trainingsläufe zu scripten die randomisiert erstellt werden für die Kroatische Skirennläuferin.

Am Anfang wurden verschiedene curven gescriptet um eine ähnliche art von Skiläufern zu erstellen. Weiter habe ich Stock-Markierungen gescriptet und witer wird das auf den Dachstein Surface projiziert die weiter bearbeitet wurden um die Änlichkeit zu einem echten Trainingslauf ahnen.

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23
24 dm.newEmptyLayer("Projected_Curves")
25 dm.newEmptyLayer("Projected_Curves::crvs", [210,210,190])
26 dm.newEmptyLayer("Projected_Curves::xsf", [10,10,40])
27 rs.LayerMaterialIndex("Projected_Curves::xsf", rs.LayerMaterialIndex("GIS:DGH_Sm"))
28 #dm.newEmptyLayer("Adjusted_Curves", [0,200,0])
29 # Remap existing curves from the "Adjusted_Curves" layer
30 def deleteAdjustedCurves():
31     objects = rs.ObjectsByLayer("Adjusted_Curves")
32     if objects:
33         rs.DeleteObjects(objects)
34
35 #Delete adjusted curves()
36 dm.newEmptyLayer("PROJ", [0, 0, 200])
37
38 dist = 60
39 anz = 11
40 anTwists = 16
41 anzRuns = 8
42
43 for i in range(anzRuns):
44     start = [1100 + dist * i, 1600, 0]
45     ziel = rs.VectorAdd(start, [random.uniform(60, 120), random.uniform(-300, -300) - i * 10, 0])
46     lin = rs.AddCurve([start, ziel])
47     coords = rs.DivideCurve(lin, anz, 0)
48     rs.DeleteObject(lin)
49
50     if i:
51         coordsX = []
52         for j in range(0, anz - 1):
53             p1 = coords[j]
54             p2 = coords[j+1]
55             coordsX.append(rs.VectorAdd(coords[j], [random.uniform(-40, 40), random.uniform(-40, 20), 0]))
56         coordsX.append(ziel)
57         for deg in [2,7]:
58             crv = rs.AddCurve(coordsX, deg)
59             #####rs.ObjectColor(crv, rs.CopyObject(crv, [200,0,200]))
60             rs.AddCurveToSurface(crv, point_count=anz) ##### try 2 avoid "SelSelfIntersectingCrv" !!
61             rs.ObjectName(crv, "slalom_" + str(deg))
62             tweens = rs.AddWeaveCurves(rs.AllObjects()[0], rs.AllObjects()[1], number_of_curves=anzTwists, method=1, sample_number=10)
63             rs.ObjectName(tweens, "slalom_" + str(i) + "_" + str(deg))
64             rs.ObjectName(tweens, "slalom_" + str(deg))
65
66 if i:
67     dm.newEmptyLayer("Stoecke", [200, 0, 0])
68     poleSpacing = 2
69     lineThickness = 5
70
71     for crv in rs.ObjectsByName("slalom_" + str(deg)):
72         crv_name = crv.Name
73         crv = rs.ObjectsByName(crv_name)[0]
74         coords = rs.CurveEditPoints(crv)
75
76         for i in range(1, len(coords), 2):
77             base = coords[i]
78             offsetV = [poleSpacing, 0, 0]
79             secondPoint = rs.VectorAdd(base, offsetV)
80
81             line1 = rs.AddLine(base, rs.VectorAdd(base, [0, 0, poleSpacing+2]))
82             line2 = rs.AddLine(secondPoint, rs.VectorAdd(secondPoint, [0, 0, poleSpacing+2]))
83
84             #####rs.PrintPreview to see
85             rs.ObjectPrintWidth(line1, lineThickness)
86             rs.ObjectPrintWidth(line2, lineThickness)
87
88             rs.ObjectColor(line1, (255, 0, 0))
89             rs.ObjectColor(line2, (0, 255, 0))
90
91             #####
92             ##### PROJECTION
93             model_surface = rs.ObjectsByName("040_3") [0]
94             anz = 64
95             rs.CurrentLayer("Projected_Curves::xsf")
96
97             ##########
98             for run in range(0, anzRuns, 1):
99                 slaloms = rs.ObjectsByName("slalom_" + str(run) + "_")
100                for i in range(0, anz, 1):
101                    nam = rs.ObjectName(crv)
102                    projected = rs.ProjectCurveToSurface(crv, model_surface, [0,0,1])[0]
103                    rs.RebuildCurve(projected, 1, anzR)
104                    rs.ObjectName(projected, nam)
105                    rs.DeleteObject(crv)
106                    crv = projected
107
108                ##########
109                stoeckeUnten = rs.ObjectsByLayer("Stoecke")
110                for stock in stoeckeUnten:
111                    p0 = rs.CurveStartPoint(stock)
112                    ptX = rs.AddPoint(p0)
113                    ptP = rs.ProjectPointToSurface(ptX, model_surface, [0,0,1])[0]
114                    rs.DeleteObject(ptX)
115
116                    ptOpen = rs.VectorAdd(ptP, [0,0,7])
117                    ptOpen = rs.AddVector(ptOpen, dm.randVec(-1,1))
118
119                    stockNew = rs.AddLine(ptP, ptOpen)
120                    rs.ObjectColor(stockNew, [0,0,175])
121                    rs.ObjectLayer(stockNew, "Stoecke")
122
123                    LP = rs.DivideCurve(stockNew, 3, create_points=False)
124                    if LP and len(LP) > 1:
125                        mid_index = len(LP) // 2
126                        all_top_points.append(LP[mid_index])
127                        pole_centers.append(ptP)
128                        stockNew_list.append(stockNew)
129
130                rs.DeleteObjects(stoeckeUnten)
131
132                paired_indices = set()
133                pairs = []
134
135                for i, base_pt in enumerate(pole_centers):
136                    if i in paired_indices:
137                        continue
138
139                    min_dist = float("inf")
140                    closest = None
141
142                    for other_pt in enumerate(pole_centers):
143                        if i != j and j not in paired_indices:
144                            dist = rs.Distance(base_pt, other_pt)
145                            if dist < min_dist:
146                                min_dist = dist
147                                closest = other_pt[1]
148
149                paired_indices.add(i)
150                paired_indices.add(closest)
151                pairs.append((i, closest))
152
153            rs.DeleteObjects(stoeckeUnten)
154
155            for pair in pairs:
156                i, j = pair
157                base_pt = pole_centers[i]
158                closest_pt = pole_centers[j]
159
160                if rs.Distance(base_pt, closest_pt) > 10:
161                    continue
162
163                if rs.Distance(base_pt, closest_pt) < 1:
164                    continue
165
166                if rs.Distance(base_pt, closest_pt) > 5:
167                    continue
168
169                if rs.Distance(base_pt, closest_pt) < 2:
170                    continue
171
172                if rs.Distance(base_pt, closest_pt) > 3:
173                    continue
174
175                if rs.Distance(base_pt, closest_pt) < 1.5:
176                    continue
177
178                if rs.Distance(base_pt, closest_pt) > 2.5:
179                    continue
180
181                if rs.Distance(base_pt, closest_pt) < 1.8:
182                    continue
183
184                if rs.Distance(base_pt, closest_pt) > 2.2:
185                    continue
186
187                if rs.Distance(base_pt, closest_pt) < 2.0:
188                    continue
189
190                if rs.Distance(base_pt, closest_pt) > 2.4:
191                    continue
192
193                if rs.Distance(base_pt, closest_pt) < 2.2:
194                    continue
195
196                if rs.Distance(base_pt, closest_pt) > 2.6:
197                    continue
198
199                if rs.Distance(base_pt, closest_pt) < 2.4:
200                    continue
201
202                if rs.Distance(base_pt, closest_pt) > 2.8:
203                    continue
204
205                if rs.Distance(base_pt, closest_pt) < 2.6:
206                    continue
207
208                if rs.Distance(base_pt, closest_pt) > 3.0:
209                    continue
210
211                if rs.Distance(base_pt, closest_pt) < 2.8:
212                    continue
213
214                if rs.Distance(base_pt, closest_pt) > 3.2:
215                    continue
216
217                if rs.Distance(base_pt, closest_pt) < 3.0:
218                    continue
219
220                if rs.Distance(base_pt, closest_pt) > 3.4:
221                    continue
222
223                if rs.Distance(base_pt, closest_pt) < 3.2:
224                    continue
225
226                if rs.Distance(base_pt, closest_pt) > 3.6:
227                    continue
228
229                if rs.Distance(base_pt, closest_pt) < 3.4:
230                    continue
231
232                if rs.Distance(base_pt, closest_pt) > 3.8:
233                    continue
234
235                if rs.Distance(base_pt, closest_pt) < 3.6:
236                    continue
237
238                if rs.Distance(base_pt, closest_pt) > 4.0:
239                    continue
240
241                if rs.Distance(base_pt, closest_pt) < 3.8:
242                    continue
243
244                if rs.Distance(base_pt, closest_pt) > 4.2:
245                    continue
246
247                if rs.Distance(base_pt, closest_pt) < 4.0:
248                    continue
249
250                if rs.Distance(base_pt, closest_pt) > 4.4:
251                    continue
252
253                if rs.Distance(base_pt, closest_pt) < 4.2:
254                    continue
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256                if rs.Distance(base_pt, closest_pt) > 4.6:
257                    continue
258
259                if rs.Distance(base_pt, closest_pt) < 4.4:
260                    continue
261
262                if rs.Distance(base_pt, closest_pt) > 4.8:
263                    continue
264
265                if rs.Distance(base_pt, closest_pt) < 4.6:
266                    continue
267
268                if rs.Distance(base_pt, closest_pt) > 5.0:
269                    continue
270
271                if rs.Distance(base_pt, closest_pt) < 4.8:
272                    continue
273
274                if rs.Distance(base_pt, closest_pt) > 5.2:
275                    continue
276
277                if rs.Distance(base_pt, closest_pt) < 5.0:
278                    continue
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280                if rs.Distance(base_pt, closest_pt) > 5.4:
281                    continue
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283                if rs.Distance(base_pt, closest_pt) < 5.2:
284                    continue
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286                if rs.Distance(base_pt, closest_pt) > 5.6:
287                    continue
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289                if rs.Distance(base_pt, closest_pt) < 5.4:
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292                if rs.Distance(base_pt, closest_pt) > 5.8:
293                    continue
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295                if rs.Distance(base_pt, closest_pt) < 5.6:
296                    continue
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298                if rs.Distance(base_pt, closest_pt) > 6.0:
299                    continue
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301                if rs.Distance(base_pt, closest_pt) < 5.8:
302                    continue
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304                if rs.Distance(base_pt, closest_pt) > 6.2:
305                    continue
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307                if rs.Distance(base_pt, closest_pt) < 6.0:
308                    continue
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310                if rs.Distance(base_pt, closest_pt) > 6.4:
311                    continue
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313                if rs.Distance(base_pt, closest_pt) < 6.2:
314                    continue
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316                if rs.Distance(base_pt, closest_pt) > 6.6:
317                    continue
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319                if rs.Distance(base_pt, closest_pt) < 6.4:
320                    continue
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322                if rs.Distance(base_pt, closest_pt) > 6.8:
323                    continue
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325                if rs.Distance(base_pt, closest_pt) < 6.6:
326                    continue
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328                if rs.Distance(base_pt, closest_pt) > 7.0:
329                    continue
330
331                if rs.Distance(base_pt, closest_pt) < 6.8:
332                    continue
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334                if rs.Distance(base_pt, closest_pt) > 7.2:
335                    continue
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337                if rs.Distance(base_pt, closest_pt) < 7.0:
338                    continue
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340                if rs.Distance(base_pt, closest_pt) > 7.4:
341                    continue
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343                if rs.Distance(base_pt, closest_pt) < 7.2:
344                    continue
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346                if rs.Distance(base_pt, closest_pt) > 7.6:
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349                if rs.Distance(base_pt, closest_pt) < 7.4:
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352                if rs.Distance(base_pt, closest_pt) > 7.8:
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355                if rs.Distance(base_pt, closest_pt) < 7.6:
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358                if rs.Distance(base_pt, closest_pt) > 8.0:
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361                if rs.Distance(base_pt, closest_pt) < 7.8:
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364                if rs.Distance(base_pt, closest_pt) > 8.2:
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367                if rs.Distance(base_pt, closest_pt) < 8.0:
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370                if rs.Distance(base_pt, closest_pt) > 8.4:
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373                if rs.Distance(base_pt, closest_pt) < 8.2:
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376                if rs.Distance(base_pt, closest_pt) > 8.6:
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379                if rs.Distance(base_pt, closest_pt) < 8.4:
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382                if rs.Distance(base_pt, closest_pt) > 8.8:
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385                if rs.Distance(base_pt, closest_pt) < 8.6:
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388                if rs.Distance(base_pt, closest_pt) > 9.0:
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391                if rs.Distance(base_pt, closest_pt) < 8.8:
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394                if rs.Distance(base_pt, closest_pt) > 9.2:
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397                if rs.Distance(base_pt, closest_pt) < 9.0:
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448                if rs.Distance(base_pt, closest_pt) > 11.0:
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538                if rs.Distance(base_pt, closest_pt) > 14.0:
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565                if rs.Distance(base_pt, closest_pt) < 14.6:
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568                if rs.Distance(base_pt, closest_pt) > 15.0:
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601                if rs.Distance(base_pt, closest_pt) < 15.8:
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613                if rs.Distance(base_pt, closest_pt) < 16.2:
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625                if rs.Distance(base_pt, closest_pt) < 16.6:
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628                if rs.Distance(base_pt, closest_pt) > 17.0:
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631                if rs.Distance(base_pt, closest_pt) < 16.8:
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634                if rs.Distance(base_pt, closest_pt) > 17.2:
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637                if rs.Distance(base_pt, closest_pt) < 17.0:
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640                if rs.Distance(base_pt, closest_pt) > 17.4:
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646                if rs.Distance(base_pt, closest_pt) > 17.6:
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649                if rs.Distance(base_pt, closest_pt) < 17.4:
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652                if rs.Distance(base_pt, closest_pt) > 17.8:
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655                if rs.Distance(base_pt, closest_pt) < 17.6:
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658                if rs.Distance(base_pt, closest_pt) > 18.0:
659                    continue
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661                if rs.Distance(base_pt, closest_pt) < 17.8:
662                    continue
663
664                if rs.Distance(base_pt, closest_pt) > 18.2:
665                    continue
666
667                if rs.Distance(base_pt, closest_pt) < 18.0:
668                    continue
669
670                if rs.Distance(base_pt, closest_pt) > 18.4
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