



Seu Título

Caso haja subtítulo

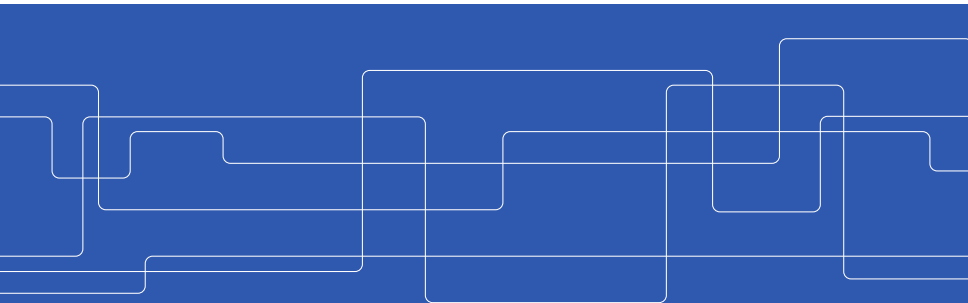
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¹ Instituição qualquer do além

² University Center of FEI

October 23, 2019

Nome do simpósio





DESTAQUE

seu texto!!!!

Changes in rules

The complexity of the game has increased thanks to the increase in the field size and the inclusion of more robots in the game.

The learning has proved to be effective

The complexity of a soccer match indicates the need for solutions that can analyze the strategy of the opposing team during the game and make necessary adaptations.



Particle Swarm Optimization (PSO)

Is an optimization algorithm based on a population of particles. It has been acknowledged for solving several problems with simplicity and a few computational resources.

PSO velocity and position equations

$$V_i(t + 1) = \omega V_i(t) + c_1 r_1 (pbest(i, t) - P_i(t)) + c_2 r_2 (gbest(t) - P_i(t))$$

$$P_i(t + 1) = P_i(t) + V_i(t + 1)$$



Tabela e bloco destaque

DESTAQUE

seu bla bla bla

NOME DA TABELA ou qq coisa de destaque

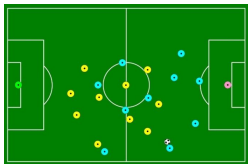
Parameter	Value
neighborhood topology	global (all particles connected)
iterations	300
acceleration coefficients	$c_1 = 2$ $c_2 = 2$
inertia	$\omega = 0.7298$
population size	100
search space	$900 (D_{maxY}) \times 1200 (D_{maxX})$
robots position	$x = rand(0, D_{maxX})$ $y = rand(0, D_{maxY})$
robots velocity	$v_x = 1$ $v_y = 1$



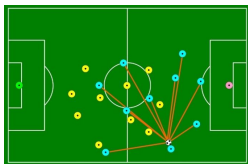
Colocar várias figuras

Aqui vc tem um exemplo de várias figuras

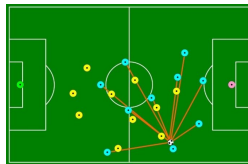
basta usar o pacote subfigure



(a) Initial situation



(b) Possible pass lines



(c) Pressing in action

Figura: Pressing example



Quer trabalhar só com itemize

taqui um exemplo

- ▶ item 1;
- ▶ item 2;
- ▶ item 3;
- ▶ item 4;
- ▶ item 5.



Pass equation

$$\begin{aligned}f_{\text{Pass}}(A, p(i, t), R) = & (f_{\text{RadiusAction}}(p(i, t), R) + \\& f_{\text{VisionLine}}(A, p(i, t), R) + \\& f_{\text{AdverRadius}}(A, p(i, t)) + \\& f_{\text{TeamRadius}}(p(i, t)) + \\& f_{\text{Colission}}(A, p(i, t)) + \\& f_{\text{InvasionGoalArea}}(p(i, t)))\end{aligned}$$

Block Pass Equation

$$\begin{aligned}f_{\text{BlockPass}}(A, p(i, t), R) = & f_{\text{MinDistance}}(A, p(i, t)) + & f_{\text{RadiusAction}}(p(i, t), R) + \\& f_{\text{VisionLine}}(A, p(i, t), R) + & f_{\text{AdverRadius}}(A, p(i, t)) + \\& f_{\text{TeamRadius}}(p(i, t)) + & f_{\text{Colission}}(A, p(i, t)) + \\& f_{\text{InvasionGoalArea}}(p(i, t))\end{aligned}$$



Experiments

Two types of experiment

- ▶ grSim simulator, the ball and the opponent's robots were positioned differently for visual verification of the behavior of the team robots.
- ▶ Five soccer matches from league at RoboCup 2019 were selected. From these games, all indirect free kick plays were analyzed.

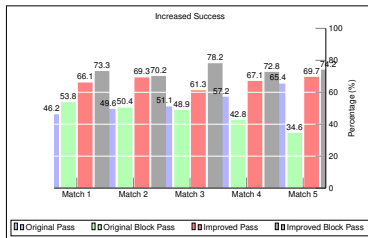


Figura: Increased percentage success in five RoboCup 2019 matches, with $\approx 15 - 20$ indirect kicks and 10,000 simulations.



Figura solta?

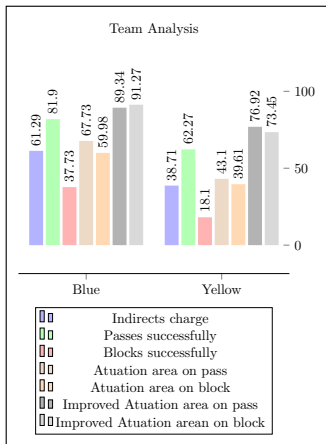


Figura: Analysis of two RoboCup 2019 matches with 14 indirect kicks.



Tecnologia gera dependência

E nós somos os viciados!!

ANTES

Redes de computadores

Compartilhamento de recursos e informações.

Evolução da Internet

Pesquisa.

Ser-humano e sua criatividade

Criatividade é inventar, experimentar, crescer, correr riscos, quebrar regras, cometer erros, e se divertir. (Mary Lou Cook)

DEPOIS

Redes de computadores

Vamos jogar Counter-strike ??

Evolução da Internet

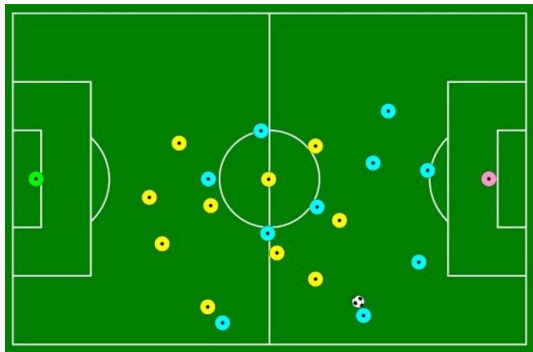
Facebook, Torrent, MSN.



Coluna com bloco e imagem

destaque

- ▶ item 1;
- ▶ item 2;
- ▶ item 3;
- ▶ item 4.





Quer brincar com cores dos blocos

Exemplo em vermelho

bla bla bal

Exemplo em azul

bla bla bla

Personalize seus blocks se quiser

veja definições no arquivo `beamerthefei.sty` e acrescente as suas... depois compartilhe com o pessoal (peça autorização para subir no github)



Brinque a vontade - bloco dentro de bloco

Exemplo em vermelho

bla bla bla

Exemplo em azul

bla bla bla



Blocos com sombra

Título como parâmetro

Texto também deve estar entre chaves

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Texto também deve estar entre chaves