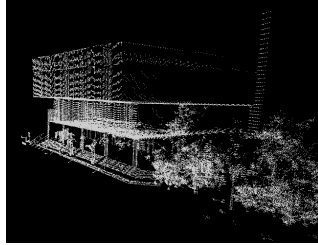
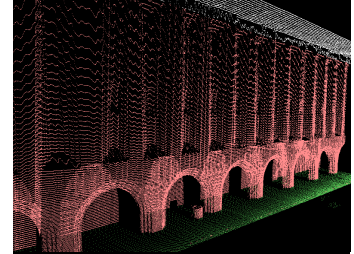


Mapeamento - Resultados



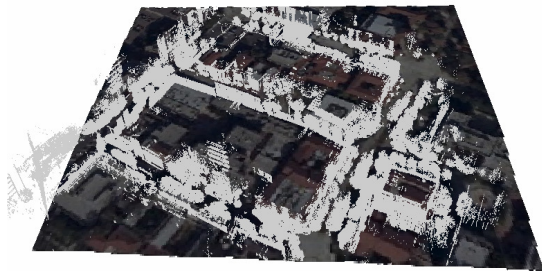
48

Mapeamento - Resultados



49

Mapeamento - Resultados



50

Mapeamento – Aquisição de dados



51

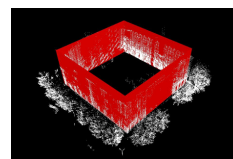
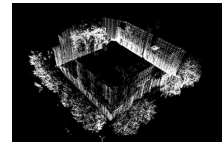
Robotic Embedded Systems Lab.

3D Map of
McKenna Range, MOUT Site

Denis Wolf & Gaurav Sukhatme

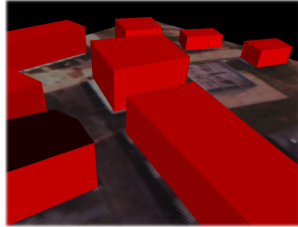
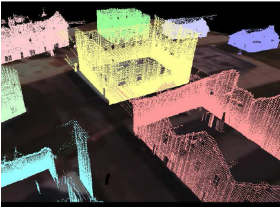
CSBC 2009 - JAI
52 Fundamentos

Outras Representações para Mapas 3D



53

Mapas 3D



54

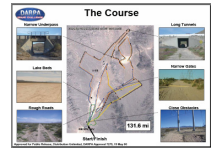
DARPA Grand Challenge 2004

Premio de **US\$1.000.000,00**
Desafio: Percorrer 224km
no deserto de forma autônoma

106 equipes inscritas e 25 finalistas

Melhor resultado: Red team (12km)

"Nobody won. Nobody even came close" - CNN



55

Veículos Autônomos - Desafios



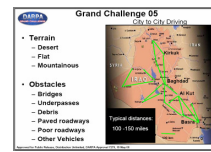
56

DARPA Grand Challenge 2005

Premio de **US\$2.000.000,00**

195 equipes inscritas,
 23 finalistas
 5 terminaram o percurso

Vencedor:
Stanley
 (Stanford University)
 6h 53m



57

DARPA Urban Challenge 2007

Urb Taxicab Algorithm

City Driving

- Obey traffic laws
- Safe entry into traffic
- Safe passage through intersections
- Safe following or moving vehicles
- Safe passage of vehicle
- Drive an alternate route
- Safe U-turn

58

DARPA 2007 - Resultados

“**none** of the winning teams had taken **any demerits** for **traffic violations**, and that the winners had all been selected based on their finishing times “

“Tartan's vehicle averaged about 14 miles per hour throughout the course, which covered about 55 miles. Stanford averaged about 13 miles per hour, and Virginia Tech averaged a bit less than that “

DARPA 2007 - Vencedor

Junior
NOVA



Equipe campeã – TARTAN Racing

60

Veículo Autônomo – USP/SC



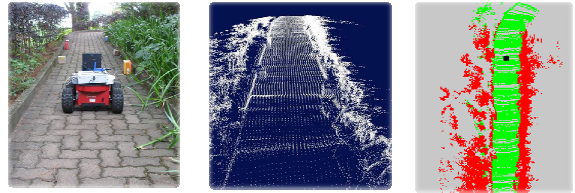
61

Veículo Autônomo – USP/SC



62

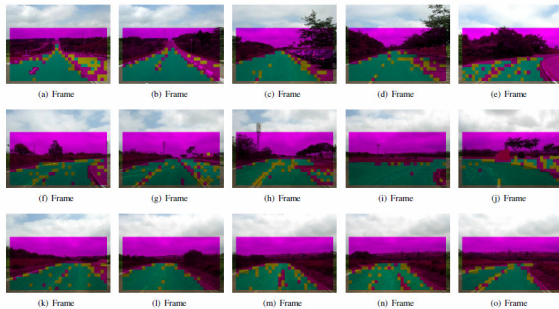
Veículo Autônomo - LRM



Navegação baseada em mapeamento a laser

63

Veículo Autônomo - LRM



Navegação Visual

64