

Evolution fuels robot research

Professor and team create walking machines

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Human like robots may no longer be a plot of science fiction films.

Computer science professor Dr. Josh Bongard and a team of researchers have recently completed a project where robots can change their bodies form by learning how to walk, according to a press release.

"This work shows that ideas from biological evolution can help us to build better machines," Bongard said. "In this case, that we can build better robots."

The idea was initially done through simulation at the Vermont Advanced Computing Center. It was then translated into reality by using legos to build the simple robots, he said.

"If I had done all of this work on a standard desktop computer, it would have taken about 100 years," Bongard said.

He said that this project has gained the Computer Science Department, and himself, a lot of press lately.

CBS, MSNBC, TechNewsDaily and Popular Science have all done stories on Dr. Bongard's research.

"I hope that this work helps to advertise that computer science is not just about programming," Bongard said. "It's about exploring the world, as well as creating the future."

This shows the Computer Science Department's versatility. The robots may be helpful in cleaning up construction sites and improving warfare, he said.

"I have a grant from the Defense Advanced Research Projects Agency, the research arm of the military, to study how we can build robots that take risks on the battlefield so our human soldiers don't have to," he said.

The walking robots have led to other research grants for Bongard and his fellow researchers, including



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one from the National Science Foundation, Bongard said.

Overall, he said that he finds all of his work to be very gratifying.

"It really points up the creative power of evolution, regardless of whether evolution is working on biological organisms or artificial machines," Bongard said.

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