

The 1st HBCU Team Prepares to Compete in 2007 DARPA Urban Challenge

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The 1st Historically Black College and University (HBCU) team made up of engineering students from Morgan State University Baltimore, Maryland prepare to apply their science, technology, engineering, and math (STEM) skills to compete in the 2007 DARPA Urban "Grand Challenge". "Team Juxtopia" will build an Unmanned Autonomous Vehicle (UAV), “Autonomous Rolling Thunder” that will demonstrate the power of autonomous robotic technology.

Preparation begins now. The Challenge begins November 3, 2007.

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Team

The Juxtopia team of engineering students will donate their time to build “Autonomous Rolling Thunder” and conduct research on the future of autonomous ground vehicles.

The Juxtopia Team will achieve the following goals:

- Design the autonomous vehicle using CAD/CAM.
- Purchase a vehicle.
- Re-engineer the vehicle to accommodate the design defined in step #1.
- Test the vehicle across a number of urban areas around Baltimore, Maryland.
- Compete in the DARPA Urban Grand Challenge on November 3, 2007.
- Apply skills learned on the Urban Grand Challenge towards making affordable autonomous vehicles.
- Expose inner city middle and high school age youth to autonomous vehicles and how math and science skills learned in the classroom may be applied to design/build these exciting type of robots.

Urban Grand Challenge

The Urban Grand Challenge was developed by the Defense Advanced Project Agency (DARPA) and opened to the civilian community to develop technology for building autonomous vehicles that will keep war fighters off the battlefield and out of harm’s way. The Urban Challenge features autonomous ground vehicles maneuvering in a mock city environment, executing simulated military supply missions while merging into moving traffic, navigating traffic circles, negotiating busy intersections, and avoiding obstacles.

The program is conducted as a series of qualification steps leading to a competitive final event, scheduled to take place on November 3, 2007. The exact location will be announced before the National Qualification Event scheduled for October 2007.

DARPA Challenge Official Website: <http://www.darpa.mil/grandchallenge/Teams/Juxtopia.asp>

Autonomous Vehicle

What is an autonomous vehicle?

An autonomous ground vehicle is a vehicle that navigates and drives entirely on its own with no human driver and no remote control. Through the use of various sensors and positioning systems, the vehicle determines all the characteristics of its environment required to enable it to carry out the task it has been assigned.

Why Develop Autonomous vehicles?

Besides the building autonomous vehicles for the military (as indicated by the National Defense Authorization Act for Fiscal Year 2001, Public Law 106-398), The Juxtopia Group, Inc. believes that developing autonomous robots can provide inner city students a practical way to apply science, technology, engineering, and math (STEM) knowledge to benefit the nation and also provide high-tech solutions to solve problems in urban communities.

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