



**RoboJackets**



THE ARTHUR M. BLANK  
FAMILY FOUNDATION

2007 TE Sessions – Intro  
September 18, 2007

[www.robojackets.org](http://www.robojackets.org)



# FIRST Announcements



**RoboJackets**



# RoboJackets JumpStart



- What
  - \$1500 Grants
  - Only covers build
  - Any team (not limited to rookies)
- Apply
  - 1 page on how your team would benefit (10/19)
    - Roman ([shtylman@gmail.com](mailto:shtylman@gmail.com))
    - Brian ([bguerriero@gmail.com](mailto:bguerriero@gmail.com))



# RJJS General Requirements



- Participate in 2007 Technology Enrichment Sessions
- Participate in the 2007-2008 FIRST Robotics Competition (team must raise registration costs)
- List RoboJackets as a sponsor on promotional materials and robot
- Attendance to the remote FRC Kickoff in Atlanta
- Participate in the brainstorming session at the kickoff



# RJJS Technical Requirements **CAT**<sup>®</sup>

- Participation in weekly design collaborations during the build period
- Choose a drivetrain design by the end of the 1st FRC build week (custom/kitbot)
- Have a complete robot design reviewed at a design collaboration by the 3rd FRC Build week



# Info



THE ARTHUR M. BLANK  
FAMILY FOUNDATION

- Sponsors
  - Caterpillar
  - Arthur Blank Foundation
- Key Contacts
  - Brian Guerriero – [bguerriero@gmail.com](mailto:bguerriero@gmail.com)
  - Stefan Posey – [stefan.posey@gatech.edu](mailto:stefan.posey@gatech.edu)
- Every Tuesday 5pm - 8pm



# About This Year



- Basic
  - Ways to build, how to build, and how to succeed.
- Advanced – Special Topics
  - Motor Control, Manipulation, Programming, etc.
- Lectures and notes (pdf)
  - <http://www.robojackets.org> (click on TE Sessions)



# TE Schedule



## Basic

- Introduction to TE 09/18
- Intro to ME 09/25
- Mechanical Power Trans 10/02
- Drive Types 10/09
- Manipulation 10/16
- Manufacturing & Safety 10/23
- Fluid Power 10/30
- Electrical Power & Storage 11/06
- Programming 11/13

## Advanced / Special

- Topics in Computer Vision
- Autonomous Control
- Technical Design
- Adv. Mech Power Trans
- Motor Control
- Manipulation I
- Manipulation II





# What is a robot?



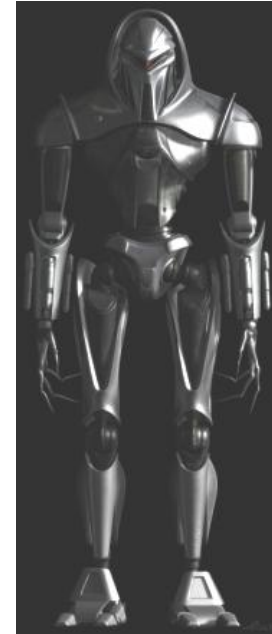
- Characteristics
  - Brain Power
  - Detects environment
- Basic Idea – A vehicle / platform that can compete tasks with out human interaction.
  - Autonomous capabilities and Sensors



# Marks of a Good Design



- Red Scanners
  - Kitt, Cylons, Gundam, RoboCop
- Shiny
  - Transformers
- Self aware
  - T1000, Data





# Applications



- Commercial / Industrial
- Government / Military
- Research
- Robotics & Georgia Tech
- College Competitions



# App: Commercial / Industrial **CAT**

- iRobot
  - Roomba
- KUKA
- FANUC
- EPSON





# App: Government / Military **CAT**

- Samsungs Sentry in the DMZ
- UAV
  - Surveillance
  - Communication
- Rescue
- Bomb Disposal

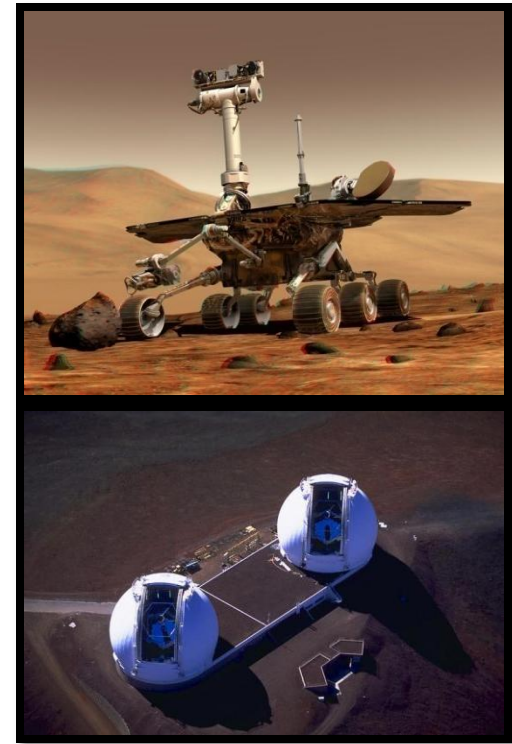




# App: Research



- DARPA
  - Grand Challenge
- NASA
  - Rovers, Landers, Satellites
- Telescopes







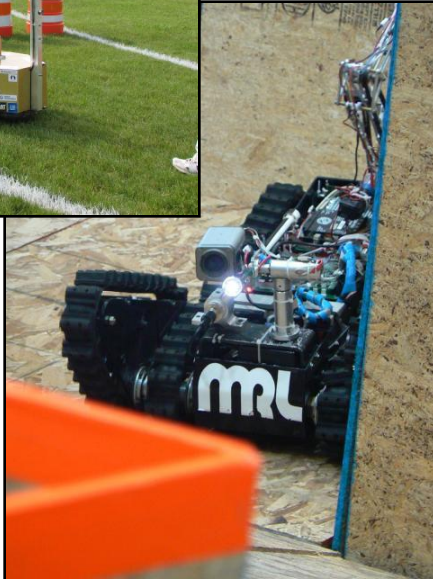
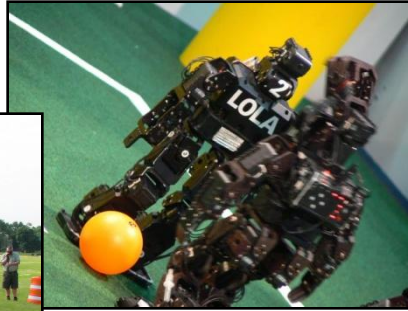
# App: Robotics & Georgia Tech **CAT**<sup>®</sup>

- Robotics and Intelligent Machines (RIM)
  - <http://robotics.gatech.edu>
- BORG Lab
- GTRI
- UAV Lab
  - IARC
- IMDL
  - Rescue Crawler, Haptic (force feedback)





# App: College Competitions



- FIRST\*
- RoboCup
  - Small Size\*
  - Medium
  - Humanoid
- BattleBots\*
- AUVSI
  - IGVC\* – Ground
  - AUVC – Underwater
  - IARC – Aerial
- IEEE
- More



Note \* = RoboJackets Team





# TE Session Final Competition **CAT**<sup>®</sup>

- When: November 17, 2007 @ 10 AM
- Where: MARC
- Food will be provided
  - Kosher and Vegetarian
- Official FTC Scrimmage



# Mini Competition



- Objective
  - Tower
    - Hold 1 bag of candy
- Supplies
  - 2 Boxes of straws
  - 1 Roll of tape



# Legal



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<http://www.robojackets.org>

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For more information contact the RoboJackets.  
(contact info available via the web)



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