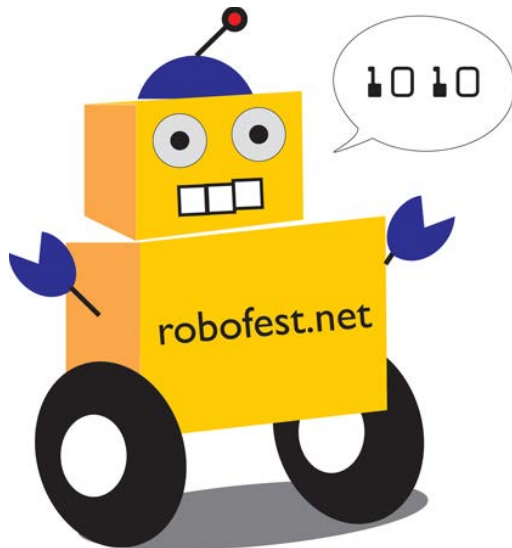


Past, Present, and Future of

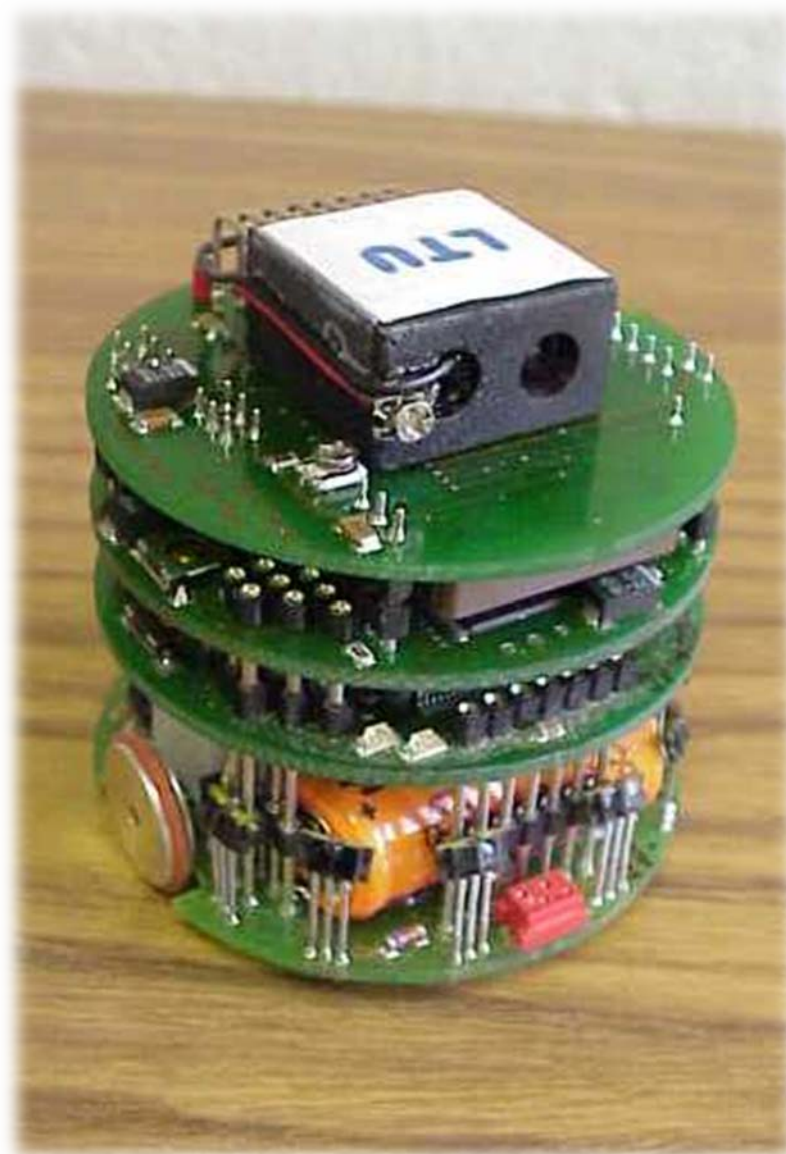


CJ (ChanJin) Chung (정찬진), PhD
Professor & Associate Chair of Computer Science
Founder & Director of Robofest

Past

Khepera Autonomous Robot

- Brain
 - Motorola 68331
 - RAM: 256KB
 - ROM: 256KB
- Eye: on-board camera
- Skin: 8 Infra-red Sensors
- Feet: 2 wheels by DC motors
- Power: Rechargeable NiCd Bat.
- *The most expensive toy in my life!*
- Khepera Robot Soccer Competitions



Khepera Robot Soccer in Paris, 1998 Champion, U. of Aarhus, Denmark

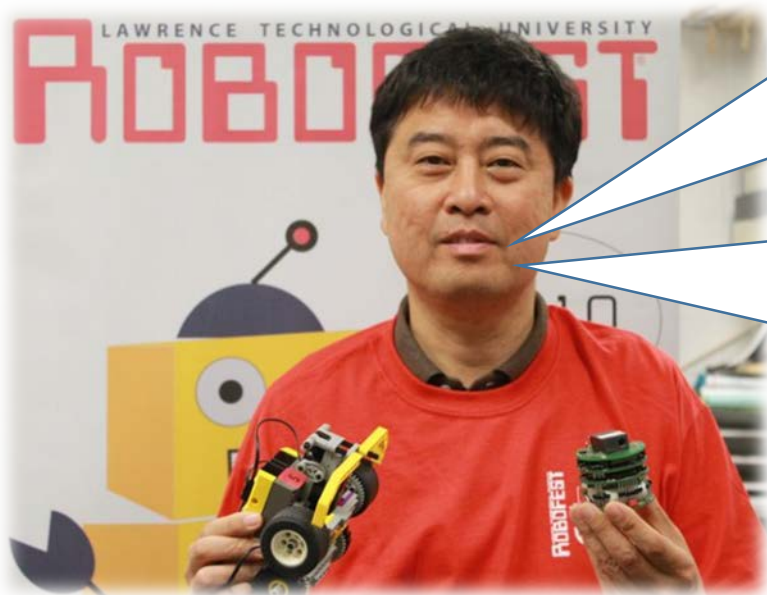


They introduced me LEGO RCX

Launch of Robofest in 1999- 2000 Academic Year

*We learn how to
think, while we
make robots think.*

*We learn how to
learn, while we
make robots learn.*



Contribution to Robotics Education

- First Robotics Science Fair – Exhibition Category, 2002
- First Unknown Missions – 2003
- First Vision based robot competition for High School Students, 2007
- First Robotics Arts – RoboFashion Dance, 2007
- Low-cost and high ROI

Present

LAWRENCE TECHNOLOGICAL UNIVERSITY ROBOFEST®

A festival of competitions and events that require the development of autonomous & intelligent robotics system with a variety of sensors

to learn STEM+ subjects for 4-12+ education

What is STEM+ ?

- STEM (Science, Technology, Engineering, Math)
- Plus
 - Computer Science/programming/coding
 - Creativity
 - Innovation
 - Teamwork
 - Leadership
 - Communication skills including writing
 - Critical thinking skills
 - Problem solving skills
 - *Arts* (STeAM)

Teams from 14 US States and

- Brazil,
- Canada,
- China,
- Colombia,
- Egypt,
- England,
- Ecuador,
- France,
- Ghana,
- Hong Kong,
- Hungary,
- India,
- Korea,
- Lebanon,
- Mexico,
- Singapore, and
- South Africa.



Some Statistics (2016 Annual Report)

1. What is the most popular Robofest category?
2. Average team size?
3. Female %
4. Most popular robotics platform
5. Post popular programming language?

Changes of Game Playing Fields

- White shelving boards
- 6ft plastic tables
- Vinyl Mat
- Vinyl Mat on a table

Future (in 5 years)

Platforms

- Drones?
 - Legged Humanoid Robots?
 - Micor/Nano
-
- VR/AR/MR

New Items being considered

- Competency based learning (at students' own pace)
- Rookie awards?
- Incremental
- Competition against yourself
- Programming
- Exhibition Theme
- Age
- More Vision (camera)
- More IoT

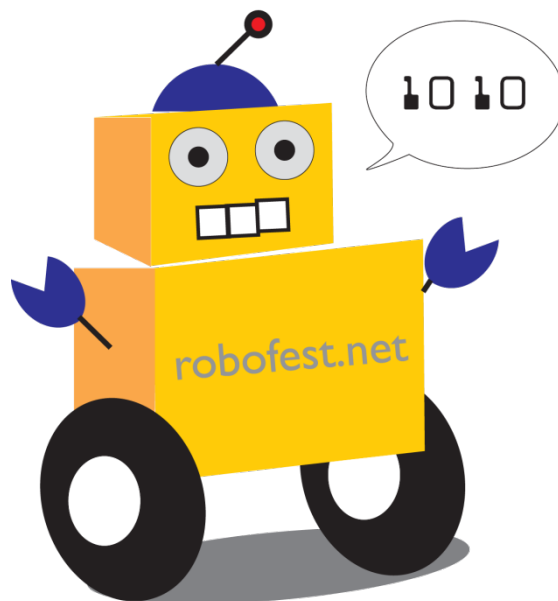
New Items being considered

- No direct adult help
- More unknown tasks
- Essay: learning from failures
- More Math & Science
- Revival of Answer a question (?)
- More online learning and sharing info
- World Championship outside USA (?)
- Advisory board consists of Robofest Coaches and Alumni



Robofest's future will be bigger,
better, and more brilliant

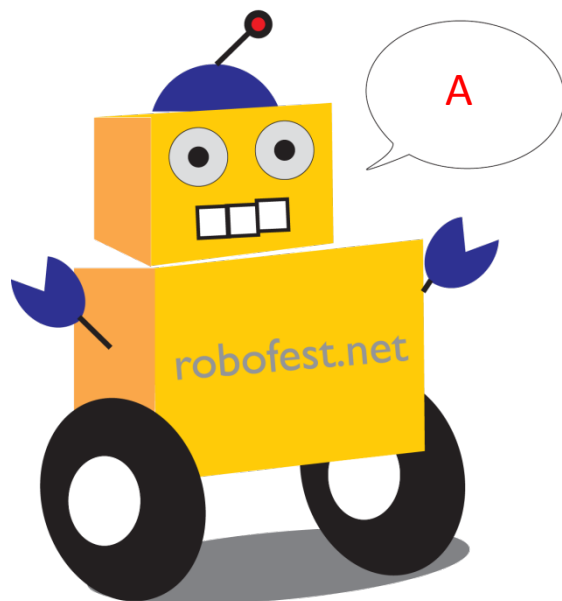
Any Questions?



Why 1010?



Any Questions?

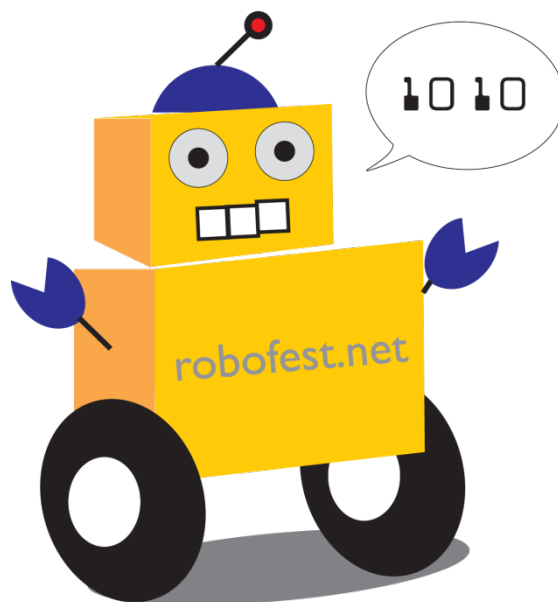


Why 1010?

1010 in binary is
A in hexadecimal



Thank you!



www.facebook.com/robofest



robofest@LTU.edu