



Android-NXT Robotics Programming Day Camp

Dates: Monday, July 18 ~ Tue., 19, 2011

Time: 9 am – 4 pm

Location: Lawrence Technological University, Southfield, Buell Management Bld., M210 (July 18) and M218 (July 19)

Instructors:

- Dr. CJ Chung (Associate professor of Computer Science, Founder and Director of Robofest, chung@ltu.edu)
- Jon Nabozny, Robotics Lab Assistant
- Taiga Sato, Robotics Lab Assistant

Objectives

- To learn basic Android mobile app programming with Java; Android sensor/Bluetooth programming
- To learn basic concepts in autonomous robotics, image processing and computer vision

Tentative Topics & Schedule

| Date | Time | Topics | Instructors |
|---------|-------------|--|--------------------------|
| July 18 | 9~10am | Check-in; Introduction to Android development | Chung |
| | 10~11am | Setup & installations for Android programming Running apps on a real phone | Nabozny and Chung |
| | 11~noon | Android programming basics | Chung |
| | Noon~1pm | Lunch provided by Lawrence Tech Robofest | |
| | 1pm~4pm | Android graphics Treads and Timers Capturing a single image using Android Camera class | Chung, Nabozny, and Sato |
| July 19 | 9am~noon | Single Image processing Vision processing: Color to B/W Introduction to LeJos NXT programming Bluetooth programming Android – NXT | Chung & Sato |
| | Noon~1pm | Lunch provided by Lawrence Tech Robofest | |
| | 1:00~2:00pm | Android UI to control NXT robot via Bluetooth | Nabozny & Chung |
| | 2:00~2:30pm | Go forward until white paper on the floor is detected | Sato & Chung |
| | 2:30~4:00pm | NXT line following using Android phone camera NXT line following while stopping at red color | Sato & Chung |

Pre-requisites (Eligibility)

- For high school students who might be interested in learning more computer science.
- Some programming knowledge and experience required.

Benefits

- Participants will be able to study for Computer Science AP exam in Java
- Participants will be able to develop various Android apps

This camp is partly sponsored by TARDEC