Report on 2016 IEEE CIS Summer School on Computational Intelligence in Big Data Analysis and Robotics

July 4-6, Chengdu, China

Neuromorphic Computing Research Center, Department of Computer Science, Sichuan University

Link: http://ncrc.scu.edu.cn/news/2016/

The Neuromorphic Computing Research Center of the department of Computer Science in Sichuan University has hosted the 2016 IEEE CIS Summer School on Computational Intelligence in Big Data Analysis and Robotics during July 4-6,2016 in Chengdu, China.

The main goal of the summer school is to provide senior undergraduate students, or graduate students, researchers from academia and industry with hands-on knowledge on computational intelligence in big data analysis and robotics, in addition with substantial examples of typical applications. It provided an attractive opportunity for graduate students and young researchers to catch up with the fundamental theories, algorithms of neural networks models and other CI methods for big data analysis, and also the latest developments and advance in big data and robotic applications. The summer school also provided a series of lecturers covering theoretical and technical knowledge, and lab sessions covering hands-on projects to enhance the participants' interests and experience in computational intelligence research. Big data analysis and robotics are of significant to both academic and industrial fields of Information Technology, Computer Science, Electrical and Electronic Engineering.

This summer school aims to introduce the elementary concepts and the state of the art techniques of evolutionary algorithms, multi-objective optimization, adaptive dynamic programming, neural networks, and their inspirations to applying to big data analysis and robotics fields. We met multiple targets which include: (1) promoting the research on computational intelligence (evolutionary algorithms, neural networks, adaptive programming, etc.) and their applications in big data analysis and robotics in China, (2) serving existing CIS members, (3) promoting CIS and attracting new members, and (4) attracting industry participants.

Organizing Committee:

Honorary Chair

Prof. Zhang Yi
College of Computer Science, Sichuan University, Chengdu, China
E-mail: zhangyi@scu.edu.cn

General Chair

Prof. Tang Huajin
College of Computer Science, Sichuan University, Chengdu, China
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Program Chairs:

Prof. Lv Jiancheng, College of Computer Science, Sichuan University, China
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Local Arrangement Chairs:

Prof. Yan Rui, College of Computer Science, Sichuan University, China
E-mail: ryan@scu.edu.cn
Dr. Chen Yingke, College of Computer Science, Sichuan University, China
E-mail: yke.chen@gmail.com
Dr. Li Hongying, College of Computer Science, Sichuan University, China
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Speakers:

- **Gary Yen**, Oklahoma State University, US.
  Title: State-of-the art Evolutionary Many-Objective Optimization Algorithms
- **C. T. Lin, National Chiao-Tung University, Taiwan**
  Title: Computational Intelligence and Brain Computer Interface
- **Yaochu Jin**, Computational Intelligence, University of Surrey, UK
  Title: Data-Driven Optimization of Complex Systems
- **Kay Chen Tan**, National University of Singapore, Singapore
  Title: Advances in Computational Intelligence and Applications
- **Haibo He**, University of Rhode Island, US.
  Title: Imbalanced Learning in Big Data
- **Fuchun Sun**, Tsinghua University
  Title: TBD
- **Gang, Pan**, Department of Computer Science, Zhejiang University
  Title: Towards the Convergence of Machine and Biological Intelligence
- **Badong Chen**, Institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University
  Title: Nonlinear Statistical Similarity Measures in Kernel Space

Audiences:

senior undergraduate students, or graduate students, researchers from academia and industry

Venue:

Room 302, Department of Computer Science, Sichuan University, No.24 South Section 1, Yihuan Road, Chengdu, China

Program:

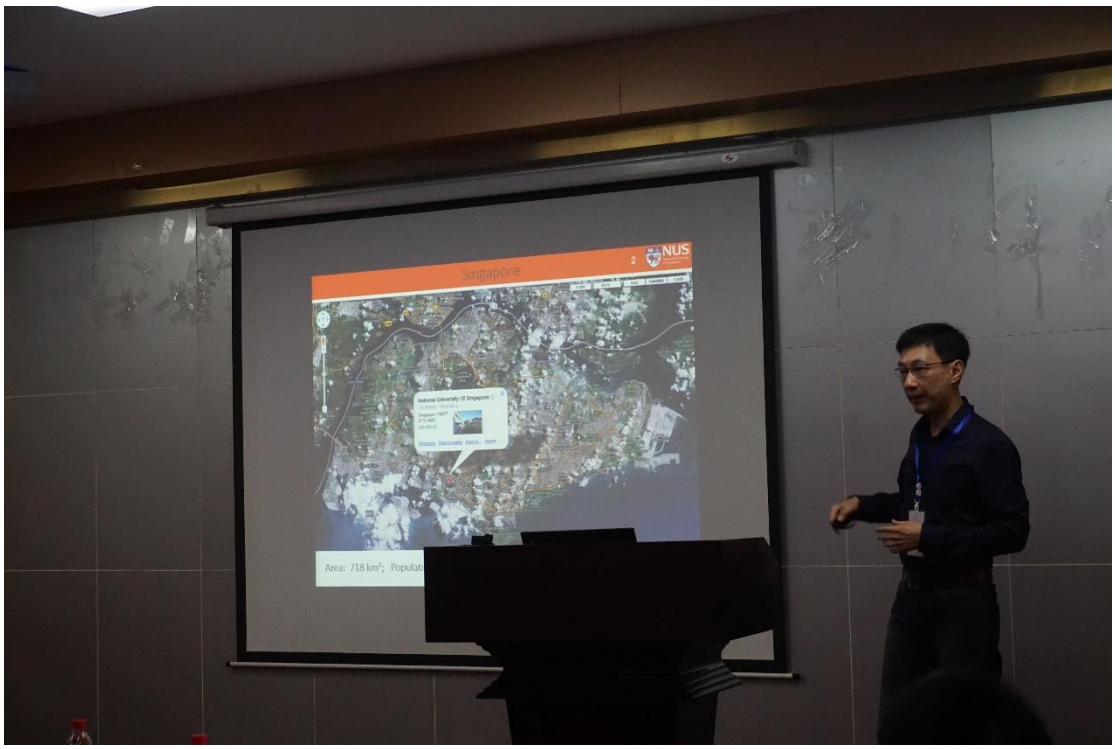
The proposed program includes 9 lecture sessions, 2 lab project sections:

July 4, 2016	
08:50 – 09:00	Opening Speech – Yi Zhang（Sichuan University）
09:00 – 10:30	Advances in Computational Intelligence and Applications -- Kay Chen Tan (National University of Singapore, Singapore)
10:50 – 12:20	TBD – Fuchun Sun (Tsinghua University)
12:20 – 14:30	Break
14:30 – 16:00	Data-Driven Optimization of Complex Systems -- Yaochu Jin (University of Surrey, UK)
16:10 – 17:40	Advanced industrial robot technology -- Guilin Yang (Chinese Academy of Sciences)
July 5, 2016	
09:00 – 10:30	Imbalanced Learning in Big Data -- Haibo He (University of Rhode Island, US.)
10:50 – 12:20	Towards the Convergence of Machine and Biological Intelligence -- Gang, Pan (Zhejiang University)
12:20 – 14:30	Break
14:30 – 16:00	State-of-the-art Evolutionary Many-Objective Optimization Algorithms -- Gary G. Yen (Oklahoma State University, US.)
16:10 – 17:40	Nonlinear Statistical Similarity Measures in Kernel Space -- Badong Chen (Xi'an Jiaotong University)
July 6, 2016	
09:00 – 10:30	Lab Project 1: Hands-on workshop on the Darwin Neural Processing Unit -- Gang, Pan（Zhejiang University）
10:50 – 12:20	Lab Project 2: the program implementation of spike neural network algorithm -- Huajin Tang（Sichuan University）
12:20	Closing Remarks

Photos:

1. Prof. Yi Zhang, Dean of the Department of Computer Science, Sichuan University gave a welcome and opening remark.

2. Prof. Huajin Tang, General Chair of the summer school, gave a welcome and opening remark.



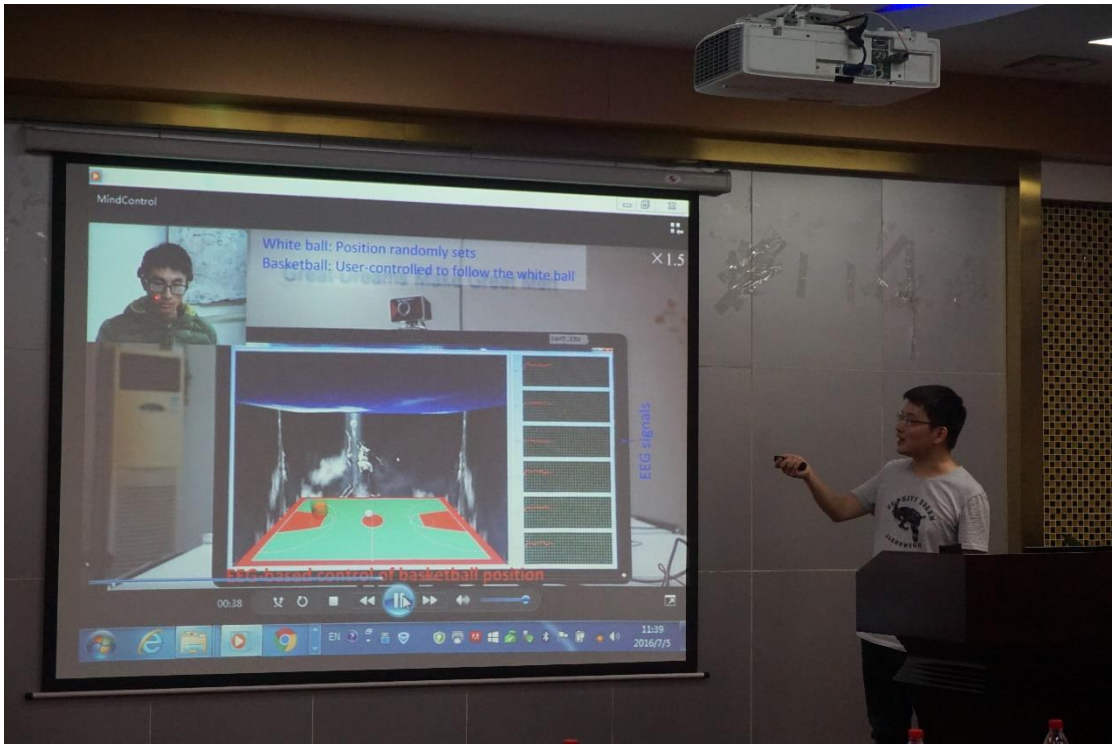
3. Prof. Kay Chen Tan

4. Prof. Fuchun Sun

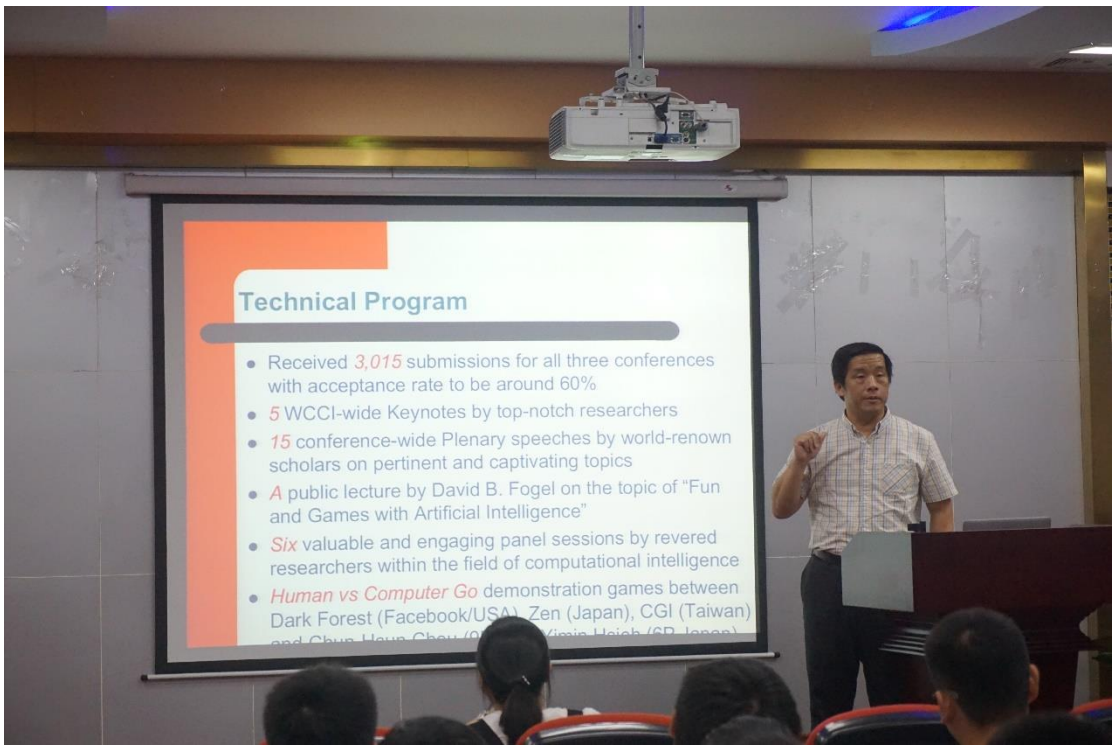
5. Prof. Yaochu Jin

6. Prof. Guilin Yang

7. Prof. Haibo He



8. Prof. Gang Pan



9. Prof. Gray G.Yen

10. Prof. Badong Chen

11. Venue & Communication