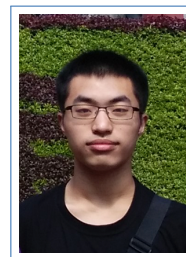


# Kaiyuan Xu



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Room 622(A)  
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China

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## Education

**Junior, Tsinghua University, Beijing.**  
Department of Automation Engineering  
GPA: 85/100 Ranking:65/140

**Sept.2012–Present**

## Experience

### *Autonomous Soccer Robot Control System Based on ROS*

**Lead Developer.**

**Sept.2013–July.2014**

- Building a new ROS-based autonomous robot software system consisting of Vision, Behavior, Motion Control and Simulation which was used in RoboCup2014, Brazil;
- Member of Tsinghua Hephaestus, the Robocup Soccer Team of China in AdultSize, Humanoid League;
- Lead developer of the Motion part;

### *Programming Platform Based on C++ and Unity3D*

**Team Leader.**

**Sept.2013–May.2014**

- Building a new programming platform which consists of Logic, UI and network for the programming contest for freshmen in Department of Automation Engineering, Tsinghua University;
- Leader of a 10-people team and technical leader of the Logic part.

### *Two-Wheel Self-Balanced Vehicle Based on Myrio*

**Team Leader.**

**Nov.2014–Jan.2015**

- Building a self-balanced vehicle control system based on myrio which has the function of self-balancing, moving forward and backward and turning.
- Leader of a 3-people team and responsible for control algorithm and filtering of the gyro.

### *Cross-platform P2P Instant Messenger*

**Team Leader.**

**Dec.2014–Jan.2015**

- Course project, building a cross-platform P2P instant messenger on both PC and Android, with functions like chatting, file transmission and voice chat, etc.
- Leader of a 3-people team and responsible for android developing and voice chat.

### *AI for Game 2048 based on Machine Learning*

**Leader Developer.**

**Dec.2014**

- Course project, developing an AI to play 2048 game using machine learning.
- Developing an AI which has a 84.4% winning percentage and has a possibility of 46.8% to achieve 4096.
- Cooperating with a classmate and responsible for the realization of TDL algorithm and UI.

## Languages

**English:**

CET-4: 640/710

CET-6: 565/710

## Computer skills

**Computer Language:** C, C++, C#, JAVA(Android)

**Other Language:** Verilog,  $\LaTeX$

**Professional Softwares:** Visual Studio, Qt Creator, Ecilipse, Unity3D, Matlab, LabVIEW, Multisim, QuartusII, Modelsim, Altium Designer

## Awards and Fellowships

**Awards:**

- 3rd Place in RoboCup2014 Soccer Robot Humanoid league AdultSize Competition(*Team member*)
- 3rd Place in RoboCup2014 Soccer Robot Humanoid league AdultSize Technical Challenge(*Team member*)

**Fellowships:**

- Tsinghua Fellowship for Technology Innovation

## Social Activities

**Minister.**

**Sept.2013–Jul.2014**

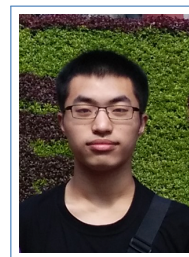
Network Ministry of Student Technology Association of Automation

**Teach Assistant.**

**Sept.2014–Jul.2015**

Undergraduate Curriculum:*Interdisciplinary Research Training* of Prof. Mingguo Zhao

# 徐凯源



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## 教育背景

本科, 清华大学, 北京.  
自动化系  
学分绩: 85/100 排名: 65/140

2012.9 至今

## 项目经历

### 基于 ROS 平台的足球机器人自动控制系统

- 主要成员. **2013.9 – 2014.7**
- 建立基于 ROS 平台的足球机器人软件系统, 包括视觉、步态、决策、仿真四部分。该系统用于 2014 年在巴西举办的 RoboCup 中。
  - 清华火神队成员, 参加 RoboCup 机器人足球人型组成人组别比赛。
  - 步态组核心成员。

### 清华大学自动化系新生 C 语言大赛比赛平台

- 平台组组长. **2013.9 – 2014.7**
- 搭建 C 语言大赛比赛平台, 主要包括逻辑、渲染、网络三部分。该平台用于 2014 年清华大学自动化系新生 C 语言比赛中。
  - 领导 10 人团队完成基于 C++ 的逻辑底层、基于 Unity 3D 的前端渲染和基于 Qt 及 MySQL 的网络通信。
  - 平台组组长, 逻辑组负责人。

### 基于 NI Myrio 平台的自平衡车

- 项目组组长. **2014.11 – 2015.1**
- 设计开发基于 Myrio 的自平衡车控制系统, 实现自平衡、前进后退、转向等功能。
  - 三人项目组组长, 负责控制算法和陀螺仪滤波。

### 跨平台 P2P 即时通信软件

- 项目组组长. **2014.12 – 2015.1**
- 课程项目, 设计开发跨平台 P2P 聊天工具, 可在个人电脑和安卓端运行。
  - 具备聊天、文件传输和语音聊天功能。
  - 三人项目组组长, 负责安卓端开发和语音聊天。

### 基于机器学习的 2048 游戏 AI 设计

- 主要成员. **2014.12**
- 课程项目, 利用机器学习, 设计开发 2048 游戏自动算法。
  - 设计的 AI 最终胜率达 84.4%, 达到 4096 的概率达 46.8%。
  - 两人合作完成, 负责 TDL 算法的实现和界面的编写。

## 语言技能

英语:

四级: 640/710

六级: 565/710

## 计算机技能

编程语言: C, C++, C#, JAVA(Android)

其他语言: Verilog,  $\text{\LaTeX}$

专业工具: Visual Studio, Qt Creator, Ecilipse, Unity3D, Matlab, Lab-VIEW, Multisim, QuartusII, Modelsim, Altium Designer

## 获奖情况

竞赛获奖.

- 2014 年 RoboCup 机器人足球人型组成人组别第三名 (队员)
- 2014 年 RoboCup 机器人足球人型组成人组别技巧挑战赛第三名 (队员)

奖学金.

- 2013-2014 清华大学科技创新优秀奖 (校设奖学金)

## 社会活动

部长.

**2013.9–2014.7**

清华大学自动化系科协网络部

助教.

**2014.9 至今**

本科生课程: 交叉训练项目, 开课教师: 赵明国副教授