

# LEQUN CHEN

UNDERGRADUATE IN COMPUTER SCIENCE

- 📄 [Download PDF](#)
- ✉ [i@abcdabcd987.com](mailto:i@abcdabcd987.com)
- ☎ +86 158-0078-9391
- 🌐 <https://abcdabcd987.com>
- 🔗 <https://github.com/abcdabcd987>

## Personal Information

I'm a junior undergraduate student major in **Computer Science** at [ACM Honored Class](#), [Zhiyuan College](#), [Shanghai Jiao Tong University](#).

## Skill Set

**Advanced:** 🐧Linux 🐍Python 🇨🇨C++ 🇯🇸JavaScript 🇬🇦Golang

**Basic:** 🐳Docker 🐚Bash 🎨HTML+CSS 🗄MySQL 🗄MongoDB 🗄Redis

## Research Interest

- Distributed Systems
- Operating Systems
- High-Performance Computing
- Artificial Intelligence
- Computer Security

## Selected Projects

Toy CPU Sept 2016

<https://github.com/abcdabcd987/toy-cpu>

A OpenMIPS-like toy CPU with five-stage pipeline. It was a project for Computer Architecture course.

Compiler 2016 May 2016

<https://github.com/abcdabcd987/compiler2016>

A toy compiler for the Compiler course. The source language is a mixture of C and Java. The target is MIPS assembly. Features included graph coloring register allocation, SSA transformation and naive optimization.

LLIRInterpreter Apr 2016

<https://github.com/abcdabcd987/LLIRInterpreter>

Single file interpreter for my intermediate representation. SSA support had been added. It served as a debug tool when writing my compiler and also helped my classmates.

Eleme Hackathon 2015 Nov 2015

<https://github.com/abcdabcd987/eleme-hackathon-2015>

I with two friends took part in [Eleme Hackathon 2015](#). The task was to design and implement a system for buying rush, i.e., dealing with transactions in the context of high concurrency and high performance. Technology stack included Python, Golang, Redis and MySQL.

Simplified Git Jun 2015

<https://github.com/abcdabcd987/sit>

A command line version control system for software development with complete history and full version-tracking capabilities, providing the ability to archive, restore and compare source code among different versions.

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## Bouncing Air

Jun 2015

<https://abcdabcd987.com/physics-engine/>

A physics engine for the thermal motion of air molecules, a visualized demonstration included.

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## p2dv.in

Dec 2014

<https://github.com/abcdabcd987/p2dv.in>

A website for animal-chess AI players to fight each other, created in order to let all classmates and TAs have fun doing the course final project. Later, in Fall 2015, it was adapted to another AI project of the course I was assistant teaching.

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## CoFun

Nov 2012

<https://github.com/abcdabcd987/CoFun>

An online judge system for high school Olympiad in Informatics training. It is still in heavy use now at Quanzhou No.7 High School, Fujian, China.

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## Teaching Experience

### Principle and Practice of Computer Algorithms

Summer 2016

Teaching Fellow at Shanghai Jiao Tong University

[https://acm.sjtu.edu.cn/wiki/PPCA\\_2016](https://acm.sjtu.edu.cn/wiki/PPCA_2016)

- Guided students to write a new website for [ACM Honored Class](#)
  - Built up an online judge system for a new kind of exams.
  - Lead a group of students learning distributed systems, implementing simplified MapReduce and Google File System according to Google's papers, and deploying and testing them on all machines of the computer room.
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### C++ Programming

Fall 2015

Teaching Fellow at Shanghai Jiao Tong University

[https://acm.sjtu.edu.cn/wiki/Programming\\_2015](https://acm.sjtu.edu.cn/wiki/Programming_2015)

- Gave a lecture on how to begin C++ projects ([slides](#))
  - Commented on students' projects. ([slides](#))
  - Built up an online judge system (p2dv.in) for the AI project.
  - Carefully designed two homework to help students master the basic idea of C++ object-oriented programming.
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## Research Experience

### APEX Lab at SJTU

Summer 2016 ~ Present

#### Deep Learning, Convolutional Neural Network, Reinforcement Learning

Advisors: [Prof. Gui-Rong Xue](#) and [Prof. Yong Yu](#)

Core developer of [Tian Yi](#) Go game AI player, following DeepMind's AlphaGo paper.

- Performance analysis and speed up
  - Refactor code base
  - Train and tune neural networks
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### Casual Research

July 2014

#### Daily Routine Surveillance Using QQ Network Status

<http://www.v2ex.com/t/121272>

QQ, the most popular instant message software in China, added a new feature showing users' network status (e.g. Wi-Fi/2G/3G/4G) to friends, which gives rise to privacy concerns. I invented a method for research purpose, that by monitoring this status and social engineering, users' daily routine could possibly be deduced.

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*Server Management*      **ACM Honored Class**      Sept 2015 ~ present  
Sysop, administrator of all websites, including online judge system, wiki and homepage.

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**APEX Lab**      Jul 2016 ~ present  
GPU Server sysop. I wrote scripts to isolate users using LXC.

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**Tianrang-Inc**      Jul 2016 ~ Oct 2016  
Co-administrator of three 8GPU servers. Use docker to solve software version conflict. Struggle with (bugs?? of) docker and NVIDIA graphics card driver.

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*Awards*      **Eleme Scholarship**      Fall 2016

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**2016 Mathematical Contest in Modeling**      Jan 2016  
Successfully Participation

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**Zhiyuan College Honored Scholarship**      Fall 2015

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**Academic Excellence Scholarship**      Fall 2015

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**The 19th National Olympiad in Informatics in Provinces**      Nov 2013  
First Prize

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**The 30th National Olympiad in Informatics**      July 2013  
Bronze Medal

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**The 7th Asia-Pacific Informatics Olympiad**      May 2013  
Silver Medal

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**The 18th National Olympiad in Informatics in Provinces**      Nov 2012  
First Prize

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**The 17th National Olympiad in Informatics in Provinces**      Nov 2011  
Third Prize

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*Patent*      **A Kind of Battery-charging Protector**      April 2013  
ZL 2013 2 0228967.6  
A protector that can protect electric bicycle batteries from over charging.

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*Education Background*      **Shanghai Jiao Tong University**      2014 ~ Present  
**Bachelor**

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