# Cheng Li

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## Publish

- **Book**: “Refactoring Network: Architecture and Implementation of SDN”, Cheng Li, Zewei Yang (On typesetting)
- **Paper**: “OXP: An Efficient Protocol for Scaling SDN-based Ad Hoc Network” (Accepted by IJRA, SCI)
- **Patent**: “A control system, method and apparatus for SDN ” ( CN105245593A)

## Education Background

- **Beijing University of Posts and Telecommunications(BUPT)**
  - M.E. Software Defined Networking (2014 - Present)
  - B.E. Communication Engineering GPA: 3.5/4 (2010 - 2014)

## Internship

- **Chief Technology and Architecture Office of CISCO(USA)——OSDNA (2016.8 - Present)**
  - Scan physical and virtual network elements in OpenStack environment including host, OVS and VM.
  - Store network topology data into MongoDB for visualizing and Troubleshooting.
- **Telecommunication Research Institute—— OTN Extension of OpenFlow1.0, Load Balancing Application (2013.7 - 2014.1)**
  - Complete encapsulation of OpenFlow1.0 data structure, and add OTN extended bytes
  - Develop an original Controller Miracle which supports IP and OTN
  - Achieve load balance between IP network and OTN on testbed built by Miracle, Mininet, and Sprient Testcenter
- **Future Networks Innovation Institute —— Research of SDN Controller (2014.3 – 2014.9)**
  - Complete chapter "Development of Micro-Controller: Miracle" of 《SDN Core Principles and Application Practice》
  - Complete outstanding paper of bachelor degree “Design and Implementation of SDN Micro-Controller” (TOP 1%)

## Project Experience

- **Design and Implement Open eXchange Protocol of SDN Control Plane (2015.3 - 2015.9)**
  - Design Open eXchange Protocol for extending scale of SDN, and implement it based on SDN controller Ryu
  - Achieve the coordination of multiple controllers, and implement the shortest forwarding cross multi-domains

- **Load Balancing on Fattree Topology Based on OpenFlow (2015.1 - 2015.2)**
    - Implement two extension functions of traffic design: Random and Probability Stride
    - Implement load balance application based on DLB (Dynamic Load Balancing) algorithm in Fattree topology
    - Evaluate the average bandwidth ratio of different algorithms
- **HTTP Acceleration Application Based on VLAN (2013.3 - 2013.5)**
    - Implement the test platform by RYU/POX + OpenvSwitch + Nginx to accelerate the speed of HTTP traffic
    - Achieve the customized service provider, and support switching of VLAN

# Skills

- Familiar with TCP/IP, OpenFlow (3 years), SDN (3 years), Docker (2 months)
- Programming language: Python (3 years), Java (6 months)
- System: Linux (Familiar with Ubuntu)
- Languages:
    - Major: Chinese
    - Second: English (CET-6)

# Awards

- "Honorable Mention" of ICM (The Interdisciplinary Contest in Modeling) of American University Students (2013)
- “Winning Prize” of National University Software Defined Networking Competition (2015)
- "The Second Prize" of "Challenge Cup" Capital University Student Extracurricular Academic Science and Technology Work Competition
- "The Second Prize in Final" & "The Best Pronunciation Award" of 2012 CCTV “Star of Outlook English Talent Competition” (Drama) of Beijing
- Three times "The Second University Scholarship" of undergraduate (Top:47/593) and twice “The First University Scholarship” at postgraduate.

# Additional Skills

- **Leadership**
    - Hainan “Beautiful Minds” college students volunteer teacher association (2011-2013)
        - Founder and minister of Issue Service Group, minister of Public Relations and Research center
        - Leader of “CHENGMAI” detachment for a year, and organized the flowing activities:
            - Volunteer teaching in summer
            - Share meeting of College entrance examination in winter
            - Book donation
    - Minister of Public Relations of “Student Association Union of BUPT” (2011)
- **Teamwork**
    - BUPT Baidu club member.  BUPT IEEE official club member (2012-2013)
    - Volunteer of the first IWS (International Wireless Symposium), and responsible for the booth of BUPT (2013)