# YUGUANG LI

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## OBJECTIVE

Any researching opportunities to help transforming the networks and communication systems with special interests in innovative networking architectures and cyber security

## EDUCATION

**Boston University, College of Engineering** Boston, MA September 2011 - May 2013
Master of Engineering in Electrical Engineering, GPA: 3.77/4.00
*Master's Project: "Cloud-based Cyber Services for Smart Lighting"*

**Xi'an Jiaotong University** Xi'an, Shaanxi, P.R. China September 2006 - July 2010
Bachelor of Engineering in Automation Engineering, GPA: 85/100; *SiYuan scholarship*
*Thesis: "The Wind Turbine Failure Predictions and Diagnostic Monitoring"*

## WORKING EXPERIENCE

**RapidSOS,LLC** March 2014 - Present
*Software Engineer* *Boston, MA*

· Working on the application backend and Leading the development of telephony
· Participated to implement the REST APIs for the backend with Django REST framework
· Set up and configured the Asterisk telephony server on AWS Cloud
· Designed the Class-based automated message generate modules for Interactive Voice Response(IVR)
· Implemented the telephony applications on Asterisk server by python and Asterisk REST APIs
· Established the interconnection code library to interacts with the partner's APIs

**The Laboratory of Networking and Information Systems** June 2013 - December 2014
*Research Assistant on Prof. David Starobinski's team* *Boston University, Boston, MA*

· Helped mostly on Networks Security and Security Education
· Established a serials of Labs for graduate course EC521: Cyber Security
· Designed the Lab contents: SQL injection, Password cracking, Metasploit, Network attacks and Snort
· Arranged for the lab environment with two VMs: Kali Linux and Metasploitable2

**The Laboratory of Network-based Complex Control Systems** October 2010 - July 2011
*Researcher on Prof. Dejun Mu's team* *Northwestern Polytech. Univ., Xi'an, China*

· Worked mainly on mathematical modelling, algorithms design and simulations for Network-based systems
· Established a dynamic transmission algorithm based on feedback and buffers on the server-side
· Proposed the probability models of VANET with different mechanisms
· Simulated and Verified the improved transmission systems

## FEATURED PROJECTS

**Lab Curriculum Design for Computer Cyber Security** June 2013 - October 2013
*The Laboratory of Networking and Information Systems* *Boston University, Boston, MA*

· Chosen the intrinsic-security lab environment within a private Virtual Network
· Designed the progressive labs using popular pen-testing tools
· Tested all the designed labs and drafted the lab documents
· Presented a paper according to this project at CISSE 2014, June, San Diego,USA
· Collaborated with Prof. David Starobinski

**Cloud-based Cyber Services for Smart Lighting** October 2012 - April 2013
*Master's project* *Boston University, Boston, MA*

· Master's project for a Cloud-based intelligent lighting system using Java
· Compared the existing Cloud services and came up with an optimal solution: Amazon Web Service
· Designed multi-thread chat server and socket communication between client and server
· Polished and integrated the dynamic Lighting Adaptation Algorithm on control server
· Implemented the web-based front end using JSPs embedded with HTML5, CSS3 and Javascript
· Deployed the system onto Cloud with Amazon RDS database and tested all the functionalities
· Supervised by Prof. Thomas Little

**Motion Curve Detection within Wireless Sensor Networks** September 2011 - December 2011
*Course of Networking the Physical World* *Boston University, Boston, MA*

· Utilized a Wireless Sensor Network (WSNET) system based on TinyOS motes with MTS400 sensor board
· Analyzed the sensor data packets transfer between MicaZ motes using the MIB520 Gateway
· Developed a lite Integral Algorithm to detect motion of the motes using Dual-axis Accelerometer Sensors
· Designed and implemented the GUI in Matlab for displaying and controlling the motion curve
· Supervised by Prof. Thomas Little

**The Embedded Audio-Video Transmission System for WLAN** November 2010 - April 2011
*The Laboratory of Network-based Complex Control Systems* *Northwestern Polytech. Univ., Xi'an*

· Proposed a dynamic transmission algorithm server-side based on RTCP feedback and buffering mechanism
· Implemented the Adaptive Rate Control Algorithm on the embedded Linux-Server
· Verified the better QoS of the improved embedded transmission system within WLAN
· Collaborated with Prof. Dejun Mu

**Packet Reachability of VANET in Bidirectional Road Scenario** May 2010 - November 2010
*The Laboratory of Network-based Complex Control Systems* *Northwestern Polytech. Univ., Xi'an*

· Proposed a probability model for End-to-End and Store-Carry-Forward mechanism respectively
· Simulated the models using Monte Carlo method in Matlab
· Compared the packet reachability between E2E and SCF within Bidirectional Road Scenario
· Collaborated with Prof. Dejun Mu

**The Wind Turbine Failure Predictions and Diagnostic Monitoring** October 2009 - July 2010
*Bachelor's Thesis* *Xi'an Jiaotong University, Xi'an*

· Integrated the existing Neural Networks Prediction Algorithm to the Wind Turbine Control Server
· Designed and implemented the Failure Prediction and Diagnostic Monitoring Control Panel by MFC
· Verified the Prediction Algorithm and the system with sample databases for Ethernet
· Supervised by Prof. Qingyu Yang

## TEACHING EXPERIENCE

**Spring 2013: Computer Communication Networks** *College of Engineering, Boston University*

## TECHNICAL STRENGTHS

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|---|---|
| **Compile Languages** | Java, C/C++ |
| **Scripting & Other Languages** | Python, PHP, Javascript; HTML, CSS, XML, JSON |
| **Operating Systems** | Linux, Kail Linux, OSs with Unix kernel, Windows |
| **Databases & Tools** | Postgres, MySQL; Git, Vim, Matlab, Wireshark, Pen-testing Tools |
| **Protocols & APIs** | HTTP/HTTPS, SIP, RTP/RTCP; jQuery, Google APIs |
| **Servers & Cloud** | Nginx, Gunicorn, Apache2, Tomcat7, Asterisk; AWS, DigitalOcean |
| **Frameworks & Architecture** | Django, Strut2, Spring, Bootstrap; REST |

## PUBLICATIONS

Yansu Hu, **Yuguang Li**, The QoS Research of H.264 Video Transmission in Embedded Wireless LAN, Computer Science(ISSN 1002-137X), vol.38, no.5, pp.83-85, 2011

Panguo Fan, **Yuguang Li**, et al, Packet Reachability of VANET in Bidirectional Road Scenario, 12th IEEE International Conference on Communication and Technology, Nov. 2010