

## Xiaochuan(Shaun) Yi

[voyieger@gmail.com](mailto:voyieger@gmail.com) | 925-3366819

### Education

---

**Ph.D, Computer Science**, University of Georgia, July 2005

Dissertation title: A CPNETS-based Design and Analysis Framework for Service Oriented Distributed Systems. Advisor: Krys Kochut

**Bachelor, Electrical Engineering**, Shanghai Jiao Tong University, June 1996

Thesis: Development of an infrared LED controlled camera system

### Certifications

---

Udacity Machine Learning Nanodegree, Jun 2018

Coursera Machine Learning, 2016

### Teaching Experiences

---

Teaching assistant at Department of Computer Science, University of Georgia, 2000 – 2003. Taught the following courses:

- CSCI 1301, Introduction to Computing and Programming
- CSCI 4050/6050, Software Engineering
- CSCI 4470/6470, Algorithms
- CSCI 4370/6370, Database Management

At AT&T Labs, I have designed a series of lectures on current topics in computer science for team seminars, with live demos and tutorials for team members.

- Hadoop and map reduce, 2012
- Full stack web application development, 2013
- Large data set processing and analysis with Apache Spark, 2015
- Computing system monitoring with Nagios, 2016
- Data science with Anaconda and Jupyter notebook, 2017
- Machine learning applications with H2O.AI, 2017
- High performance machine learning with GPU cluster, 2018

### Industry Experiences

---

**AT&T Labs, San Ramon, CA**, 2009 - present

#### Principal Member of Technical Staff

- Mobility network cell trace data system engineering. Built a Hadoop, Kafka and Spark cluster for LTE cell trace data analysis. Made the following contributions to the data system:
  - Fixed HDFS data imbalance
  - Increased data injection throughput by 10 folds
  - Fixed name node running out of heap space
  - Enabled multiple map reduce jobs
  - Transformed the data to be more suitable for HDFS storage and analysis

Derived insights from the mobility data system engineering:

- Developed LTE cell boundary estimation software tool. The tool is used to calibrate RAN planning tools and facilitate network RF optimization/troubleshooting.
  - Developed software tool to detect antenna installation issues. 37 Ericsson and 68 ALU eNBs were found with installation issues. RAN engineer field visits were made to these eNBs and antenna issues were resolved.
- Developed a training data set that combines network parameters, historical dispatches and customer calls to predict technician dispatch for customer care. Trained data set with machine learning models and deliver the model leader board. Deployed the leader into production platform. The final model can identify tens of thousands of customers with up to 45% accuracy compared to less than 3% chances of random guess on highly unbalanced dataset.

**AT&T Labs, San Ramon, CA, Jun 2005 - 2009**

#### **Senior Member of Technical Staff**

- Developed IPTV metro network planning software tool in a 3 people development team [Patent #1]. Responsible for backend design and analysis. The tool has helped company save capital expense building metropolitan area of the IP network while ensured fault tolerant networking for service delivery. It has not only automated verification of fiber path diversity, but also shortened the network planning time for a metropolitan from 2 weeks of manual planning to several hours of programed search time.
- Developed Single End Loop Test tool as a part of IPTV access network performance management platform [Patent #2]. The data powered software tool implemented a software based and data powered approach to estimate loop length with <5% error, detect and locate bridged tap or bad splice, or metallic fault such as open/short/water at 90% precision. The tool has reduced the need to send technicians to the customer's home to test the loop if ready for IPTV service sale with expensive handheld proprietary equipment.

**Beijing Jiarong Technologies Inc., Beijing, China, July 1996 – Sept 1998**

#### **Software engineer**

- Developed an international fax system that could lowered international fax cost for business customers. The system was built with DBMS, UNIX, private IP network, C programming.

#### **Patents**

---

1. Communications link discontinuity detection systems and methods, US Patent 9548793, issued January 17, 2017.
2. System and method for providing topology and reliability constrained low-cost routing in a network, US Patent 7768935, issued Aug 3, 2010

#### **Publications**

---

1. JCPNet tool and automated analysis of distributed systems. The 43rd ACM Southeast Conference, Atlanta, GA, March 2005
2. A CP-nets-based design and verification framework for web services composition. In Proceedings of 2004 IEEE International Conference on Web Services, pp. 756-760. July 2004, San Diego, California

## Honors

---

Multiple Patent awards at AT&T Labs

Key contributor award AT&T Labs

Scholarships in Shanghai Jiao Tong University

2<sup>nd</sup> place in state High School Physics Olympiad

## References

---

1. Krys Kochut, Professor, Computer Science Department, University of Georgia
2. John Miller, Professor, Computer Science Department, University of Georgia
3. Eileen Craemer, Professor, School of Computing, Clemson University
4. Junfeng Qu, Professor, Clayton State University
5. Xidong Wu, Principal Machine Learning Engineer, Workday
6. Jin Wang, Director, AT&T Labs
7. Kevin Meng, Director, AT&T Labs

