

Wenbo Song

(917) 815-7753 / ws2505@columbia.edu / 600 W 113th Street, NY 10025

Education

- **Columbia University** New York, NY
 - *M.S. in Electrical Engineering* *Aug 2017 - Expected Dec 2018*
 - Related Course: Big Data Analysis, Neural Networks & Deep Learning, Algorithms, Content Distributed Network
- **Beijing University of Posts and Telecommunications (BUPT)** Beijing, CN
 - *BSc(Eng), BUPT & BSc(Eng), QMUL (Queen Mary University of London)* *Sep 2013 – Jun 2017*
 - Joint Bachelor Programme: Telecommunications Engineering with Management
 - Related Course: Machine Learning, Database, Data Structure, Software Engineering, Internet Protocols, Advanced Network Programming, Internet Applications

Experience

- **Baidu, Inc** Beijing, CN
 - *Internship, Software Developer* *Oct 2016 – Feb 2017*
 - Designed and Implemented part of a website in JavaScript which can search user information.
 - Managed MySQL database on the server side, used Jersey to handle the requests and used Hibernate to do query.
- **Network Technology Research Center, Chinese Academy of Sciences.** Beijing, CN
 - *Internship, Student Research Assistant* *Jul 2016 – Oct 2016*
 - Wrote C++ program to implemented existed Firewall Rule Management Algorithms in Software Defined Networks.
 - Used mininet to generated synthetic topologies of next generation network and simulate the behavior of the data link and network layers, through Gurobi to locate the optimal value based on the two existing algorithms.

Selected Projects

- **Multi-digit Number Recognition using Deep Convolutional Neural Networks** *Oct 2017-Dec 2017*
 - Designed and Implemented a 10-layer CNN network using Tensorflow to achieve the accuracy of 93%.
 - Used Python to do data preprocessing, model training and testing.
- **Visualized Distribution of Sports Fans Based on Twitter Data** *Nov 2017-Dec 2017*
 - Grab real-time tweets and clean the text using Python tweepy and nltk packages.
 - Used Spark to do the word2vec and k-means clustering, used JavaScript to do the interactive visualization.
- **Interactive Data Visualization using D3.js, Node.js and MongoDB** *Aug 2017 – Dec 2017*
 - Fetched the data and stored it in MongoDB.
 - Created a Node.js server to get data from MongoDB and host it as an API.
 - Built frontend using D3.js, DC.js and some other JavaScript frameworks.
- **Web Application Security Management System Based on Spring Security** *Jan 2017-Jun 2017*
 - Designed a user login security management website using JavaScript under Spring Security framework, combined with SSH (Struts2, Spring, Hibernate) framework
 - The system achieved the functions of confirmation for user login, distribution of multi-user authority and etc.
- **FTP Proxy** *Sep 2015 – June 2016*
 - Developed a proxy between FTP server and client to handle the request, responses and transfer files.
 - Used C++ language on Ubuntu VM to implement the proxy and use Wireshark to analyze the packets.

Skills

- **Languages:** Java, JavaScript, CSS, Python, C++, Android, SQL, JSON, HTML, SDN
- **Frameworks:** AngularJS, MongoDB, JQuery, Node.js, Spring, Hibernate, Jersey, Servlet, Hive, Hbase, Spark, Hadoop
- **Tools/OS:** Mac OS, Linux/Unix OS, AWS, Docker, IntelliJ IDEA, Visual Studio, TCP/IP Sockets, Wireshark