

TIANPEI CAI

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EDUCATION

NEW YORK UNIVERSITY, New York, NY, USA

Sep 2015 - May 2017

Master of Science, Electrical Engineering

DONGHUA UNIVERSITY, Shanghai, China

Sep 2011 - Jun 2015

Bachelor of Engineering, Communication Engineering

SKILLS

Languages: Java · JavaScript · HTML · CSS · Python · MATLAB

Frameworks: Java Spring · AngularJS · Bootstrap · Torch

Key Courses: Java · Machine Learning · Cloud Computing · Computer Vision · Network Design & Algorithm

PROJECT AND RESEARCH EXPERIENCE

Convolution Neural Network for MNIST (Torch)

March 2017

- An Convolution Neural Network Model Design for recognizing MNIST handwriting images
- Training model to learn if two input images are including same handwrite numbers
- Trained and tested with 60000 training dataset and 10000 testing dataset

E-Music Online Store Website (Java Spring Framework)

Jan 2017 - Current

- An Online music store with user friendly features (shopping cart, checkout) and storage management functionality
- Based on Java Spring framework, implemented with Spring MVC framework, Spring Security, Spring Web Flow
- Designed Front End with HTML/CSS (with Bootstrap)/JS. Displaying products details with dynamic information
- Implemented storage management feature with Hibernate JPA and H2 database

Github Searcher and Spotify Searcher Web Apps (AngularJS)

Dec 2017 – Jan 2017

- Two Web Apps that can search users on Github and artists on Spotify
- Dynamically display user's profile, repos and Artist's albums with embedded trial track player
- Implemented by AngularJS and HTML/CSS (with Bootstrap), Git API and Spotify API for searching functions

Shortest Path Finder on BRITE Network Topology (Java)

Dec 2017

- A tool for finding shortest path in given network topology (generated by BRITE)
- Designed Non-Congestion / Congestion, implemented by Java and dynamic programming algorithm

Dual Mode Terminal Chatter (Java)

Nov 2016

- Terminal chatter in local machine with instant message functionality, blocking and non-blocking Modes
- Implemented back-end server supports both mode and multiple chatters simultaneously
- Implemented by Java IO and NIO respectively.

Concurrent Word Counter (Java)

Nov 2016

- Multi-threads word counter with user-defined concurrency factor
- Implemented by Java concurrency mechanism (Threads / ServiceExecutors) and Map Reduce strategy

Video Stream Object Tracker (MATLAB)

April 2016 – May 2016

- Recognizing and Tracking moving object with input video stream
- Implemented an algorithm for real-time/non real-time object tracking
- Analyzing object trace and dynamically display trace on output stream

Communication Mechanism for Android and ROS (Python/Java)

Feb 2015 – May 2015

- Communication Mechanism for Android and Robot Operating System. Designed Server/Client by TCP socket

WORKING EXPERIENCE

New York University, Teaching Assistant

Sep 2016 – Current

- TA for graduate level course *Internet Architecture and Protocols*

China Mobile, Network Maintenance Assistant (Intern)

Jun 2014- Aug 2014

- Base station maintenance and network testing on Linux;
- Analyzed and dealt with spontaneous system failure on a daily basis