

Tian Zhang

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EDUCATION

Northwestern University - Evanston, IL

December 2015 (Anticipated)

Master of Science in Computer Science

GPA: 3.714/4.000

Beijing University of Posts and Telecommunications - Beijing, China

June 2014

Bachelor of Engineering in Electronic Science & Technology

GPA: 83.23%

PROFESSIONAL SKILLS

- Programming Languages: Java, C/C++, HTML, JavaScript and Python.
- Language: Native speaker of Mandarin.

PROJECTS

Networking Protocols Implementation

January 2015 - March 2015

Course: Introduction to Computer Networking

Northwestern University - Evanston, IL

- Accomplished two IP algorithms (Link State and Distance Vector) in C++, designed the data structure of routing table stored in each node, and wrote code on Dijkstra's and Bellman-Ford algorithms to find the shortest route.
- Implemented TCP based on RFC793, achieved both passive and active opens, made actions to socket requests and incoming packets, handled the timeout event with Go-Back-N mechanism, and improved transfer reliability with flow control.
- Built a HTTP client and two HTTP servers. The advanced server could handle multiple sockets simultaneously.

3D Space Construction

February 2015

Course: Introduction to Computer Graphics

Northwestern University - Evanston, IL

- Generated multi-colored jointed 3D objects with WebGL in JavaScript, made them move smoothly and continuously in an infinite 3D space, and demonstrated the scene with a HTML webpage.
- Various user interactions were available, including changing the angle of view with mouse-drag, moving the objects with the keyboard, and stop/run or speed up/down the animation with buttons.

Data Structures Implementation

November 2014

Course: Data Structures & Data Management

Northwestern University - Evanston, IL

- Established a binary search tree in Python, and performed operations including insertion, BFS & DFS, getting rank and setting successor while maintained all the attributes of each node.
- Constructed a graph with adjacency matrix and adjacency lists representation, and accomplished inserting, checking and removing nodes or edges.

Tic Tac Toe Game

June 2013

Course: Smart Card System

Beijing University of Posts and Telecommunications - Beijing, China

- Wrote a Tic Tac Toe game in Java on a smart card, which could read APDU commands from the card reader.
- The program worked in two modes - with or without verification of the chessboard MAC code sent by the card reader - and it guaranteed every step as the best choice.

Path Finding Smart Car

September 2012

Beijing University of Posts and Telecommunications - Beijing, China

- Developed a path-finding program in C on 51 SCM to lead a smart car autonomously going through a labyrinth that was unknown in advance, and won second prize (top 10%) in the school's competition.
- Stored the car's selection at each fork of the road in a tree, which helped the car to try different directions and go back to the parent fork of a dead end correctly.

HONORS & AWARDS

Excellent Graduate of Beijing, China

June 2014

Honorable Mention (Second Prize) in Mathematical Contest In Modeling

February 2013

Top Prize (1/146) in Business Plan Competition of Beijing University of Posts and Telecommunications

September 2012