Jinghan Guo

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Interests

Currently, as a Master student majoring in Computer Science, I devote myself on programming languages, algorithms, data structures, and computer architectures, *etc.* I used to work on the simulation of atmospheric physical processes with Fortran. I am passionate in studying computer related techniques, such as high performance computing, big data management, machine learning, and applications development. I am also interested in Atmospheric Physics and Environmental Science and hope to do some correlation works with Computer Science. Aside of work, I enjoy traveling, reading, especially sports, such as swimming, volleyball, tennis, and squash.

Education

Master Student of Computer Science, 2015.9 - 2017.5 (expected)
Department of Computer Science, George Washington University.
Advised by Professor Claire Monteleoni
GPA 3.6/4.0 (current)

Master of Atmospheric Physics and Environmental Science, 2011.9 - 2014.6
Peking University, Beijing, China.
Advised by Professor Huiwen Xue
GPA 3.63/4.0

Bachelor of Environmental Science, 2007.9 - 2011.6
Liaoning University, China.
GPA 3.46/4.0

Working Experience

- 2016.9 - present, Software Engineer (Intern), Signal Vine, LLC

- 2014.7 - 2015.6, Assistant Engineer, Beijing Meteorological Bureau, Beijing, China

- 2012.9 - 2013.6, Graduate Teaching Assistant, Peking University

- 2011.9 - 2014.6, Graduate Research Assistant, Peking University

Projects

2016.09 - present, Projects in Signal Vine
During my intern, I mainly work on two projects.

- The first project is an advanced enterprise message platform for higher education and nonprofits. In this project, I apply program definition language (similar with lisp) on the messages demanding by costumers. Specifically, I create a yaml file, import the messages to the sending queue, and send the messages to target students. Meanwhile, the messages are stored in the database (PostgreSQL).

- The second project creates internal utility tools on web servers. I used Flask (a python framework) to create representational state transfer (REST) APIs. They can be used to test file transfer between local and server, and efficiently update messages.

  This is a project I am really proud of. From knowing little about web server to creating useful utility tools step by step, I am confident to handle the challenges in future.

2015.09 - 2016.12, Course Projects in GWU

- Socket programming: http web server. Create a socket, bind it to a specific address and port, send and receive a HTTP packet.

- Implement distributed Distance Vector Routing: writing a distributed set of procedures that implement a distributed asynchronous distance vector routing for the network.

- Routing Emulation: emulate the functionalities of hosts and routers using BSD sockets for inter-process communication.

- Implement an infinite precision arithmetic package for integer with more than 10 decimal digits.

- Implement a memory management package for storing variable-length records in a large memory space, which uses worst fit rule for selecting which free block to use for a memory request.

- Automatically generate a maze, then use depth-first search(DFS) and breadth-first search(BFS) to solve this maze, respectively.

- Implement an address book supporting multiple field search in $O(n \log n)$ time complexity, with the preprocess of sorting different fields before binary searching.

- Perform document analysis for text document with Go language, which fulfills histogram of characters, alphabetical list of the words, histogram of the words, and returns the top three word sequences in the file.

2014.07 - 2015.6, Weather Information Releasing System Management

- Develop a new connection module to weather information releasing system and maintain the system.

2013.02 - 2013.11, Study of Cloud and Aerosol

- Study the relationship between cloud height and aerosol's concentration in Beijing. Transform Laser radar data from time series to spatial distribution.

2012.05 - 2013.02, Simulation of Typhoon with Fortran

- Design Fortran program simulation model about Typhon.

Honors & Awards

- Second Prize of Scholarship for Outstanding Graduates, Peking University (2011 - 2014)

- Volunteer of Haidian District, Beijing (2014)

- Outstanding Student Leader in the School of Physics, Peking University (2012 - 2013)

- Active Member in Graduate Student Union of Peking University (2012 - 2013)

- Second Prize of Scholarship for Outstanding Students, Liaoning University (2009 - 2011)

Skills

- Programming Language: C; C++; Python; Java; Fortran; IDL

- Algorithm & Data Structure: Solve 191 questions on HackerRank, 83 questions on LeetCode.

- Others: Linux, Vim, Jira, GitHub, Eclipse