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Randolph Y. Liang

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Education

Virginia Polytechnic Institute and State University	Blacksburg, VA	Aug 2014 - Present
Major: **Bachelor of Science in Computer Science** Minor: Mathematics	Expected Graduation: December 2018 (current **Senior**)	Current GPA: **3.08**

- **Relevant Coursework:** Data Structures and Algorithms, Computer Systems, Data Structures and Software Design, Problem Solving in CS, Comparative Languages, and Human-Computer Interaction

Employment

Java Software Engineer Intern	**Leidos**	May 2017 - Jan 2018

- Researched vulnerabilities and developed exploits for various IoT devices

Technical Experience

Projects:
- **Extensible Shell (C) -** an extensible shell with process management for various Unix commands, job control, and plugin support; the shell takes in line-by-line input from the command line and will accomplish regular terminal functions such as moving a process to the foreground, killing/stopping a job, etc.; piping and I/O redirection is supported for appending/overwriting files
- **Memory Manager (Java) -** a memory management package for storing records (consisting of songs and artists from a million song database) with a large memory space, relying on a hash table to store handles that point to the artist/song index in the memory manager; also implements a range query feature, utilizing a B+ tree of order 3 (i.e. 2-3+) to retrieve all songs written by a specific artist and all artists who've written the same song
- **Modified Quicksort (Java) -** implements a variant of quicksort for binary data; the input data contains numerous 4-byte records that consist of two 2-byte short integer values (a key value for sorting and a data value) in the range 1 to 30,000; a buffer pool is used to mediate the access to the file (in an array), storing 4096 byte blocks and organizes everything via the LRU replacement scheme
- **Custom Chipotle Order (XML, Java) -** created an Android application that relies on user input to determine cost and nutrition for a Chipotle order which depends on local (Blacksburg) prices/tax rates
- **RunKeeper Parser (Java) -** used XML schema to input GPX files for Java compatibility, parsed data for more fine-tuned sorting (that is not offered in the app without premium) to track personal running progress
- **randyliang.com (HTML/CSS, JavaScript) -** personal website that uses a skeleton as a framework with links to résumé, projects on GitHub, and email

Additional Experience

- **Residential Leadership Community (2014-15) -** lived in a living learning community in which I studied the philosophy of leadership for two semesters while also being an active member of the community with volunteering and weekly meetings which primed me for the communication side of computer science in paired programming and group projects

Languages and Technologies

- Java, C, C++, Python
- Eclipse, IntelliJ, Git, GNU/Linux (Debian and RPM)