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RANDOLPH Y. LIANG

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EDUCATION

Blacksburg, VA	**Virginia Tech**	**Aug 2014 – Present**

- **B.S. in Computer Science** with Minor in Mathematics, December 2018
- **GPA: 3.08**, Dean's List Spring 2017
- Coursework: Data Structures and Algorithms, Computer Systems, Data Structures and Software Design, Problem Solving in CS, Comparative Languages, and Human-Computer Interaction

EMPLOYMENT

Software Engineer, Co-Op	**Leidos, Inc.**	**May 2017 – Jan 2018**

- Researched vulnerabilities and developed exploits for various IoT Devices

TECHNICAL EXPERIENCE

Projects

- **Extensible Shell (C) –** with process management for various UNIX commands, job control, and plugin support. Takes line-by-line input from the command line (e.g. moving process to foreground) and supports piping and I/O redirection.
- **Memory Manager (Java) –** a memory management package for storing records consisting of songs/artists from a million-song database, relying on a hash table to store handles that point to the song/artist index in the memory manager. Implements a range query by utilizing a B+ tree of order 3 (i.e. 2-3+) to retrieve 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 data contains numerous 4-byte records that consist of two 2-byte short integer values (a key value for sorting and a data value), ranging from 1 to 30,000. A buffer pool is used to mediate the access to the file (in an array), storing 4096 byte blocks and is organized 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 using local (Blacksburg) prices/tax rates
- **Runkeeper Parser (Java) –** used XML schema to input GPX files for Java compatibility and 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 (2014-2015) –** a living learning community in which I studied the philosophy of leadership for two semesters while also being an active member through volunteering and weekly meetings which primed 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)