GUANHUA CHEN

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EDUCATION

DUKE University *August 2019 - Present*
M.S. in Electrical & Computer Engineering
GPA: 3.57/4.0

Huazhong University of Science and Technology *September 2015 - June 2019*
B.S. in Electrical & Computer Engineering
GPA: 3.75/4.0

COURSE PROJECTS

Sally Stash January 2020 - February 2020
Individual project: Java *Durham, NC*

· Developed a full stack web application let users request, drive for and join rides.
· Built user friendly interface at the front-end using Bootstrap, CSS and JavaScript.
· Used PostgreSQL to store user data at the back-end.

Ride Sharing Service December 2019 - January 2020
Individual project: Django, PostgreSQL, Bootstrap *Durham, NC*

· Developed a full stack web application let users request, drive for and join rides.
· Built user friendly interface at the front-end using Bootstrap, CSS and JavaScript.
· Used PostgreSQL to store user data at the back-end.

Command Shell November 2019 - December 2019
Individual project: Linux, C++ *Durham, NC*

· Tokenized the input string and handled the complex combination of symbol \, ", $ and white space.
· Searched the PATH environment variable for commands, then forked and executed.
· Provided access to variable. User could set, export and reverse the variable.
· Added redirection function for input, output and error output.

Huffman compressor October 2019 - November 2019
Individual project: C++ *Durham, NC*

· Designed a file compressor based on Huffman coding.
· Constructed a priority queue based on the word frequency, then built a binary tree.
· Used the binary tree to create a map which encoded characters with the appropriate bit strings.

RESEARCH EXPERIENCE

Mid-infrared Tunable Lasers November 2017 - December 2018
Research asassistant: MATLAB *Wuhan, China*

· Designed a tunable optical parametric oscillator for generating mid-infrared lasers.
· Conducted numerical simulation with MATLAB and helped build up the oscillator.
· The new system generated superior quality beam and the result was published on Optics Letter.

COURSES

Object-Oriented Programming, Data Structure and Algorithm, Operating System, Computer Network, Database

TECHNICAL STRENGTHS

Languages	C++, C, Python, Java, SQL, MATLAB
Tools	Emacs, GDB, Valgrind, Django, PostgreSQL, Bootstrap