Ian Johnson

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EDUCATION: Southern Methodist University President's Scholar — Dallas, Texas
Bobby B. Lyle School of Engineering — Expected Graduation: May 2019
Major: Computer Science — GPA: 4.00
Colorado State ACT Perfect 36 Award / AP Scholar with Distinction

TECHNICAL EXPERTISE:

Primary Languages:	C++, Java, Python
Other Languages:	PHP, HTML/CSS, ARM Assembly, LaTeX, Swift, Objective-C, MatLab, R
Tools / Environments:	Unix/Linux (Bash), Git, Apache, MySQL, GCC, GNU Make, Vim, Valgrind

RELEVANT COURSES: Data Structures, Assembly Language and Machine Organization, Discrete Computational Structures, Database Concepts, Programming Languages, Computer Networks and Distributed Systems, Statistical Methods for Engineers

MAJOR PROJECTS:

Class Scheduling Resource Allocation Software — 03/2013 - 08/2015
- Designed and implemented a proprietary depth-first-search based machine learning algorithm for student, teacher, and class scheduling for a high school of 3,600 students
- Implemented a GUI and end-user app for school administrators to use to schedule classes based on student, teacher, and facilities constraints
- Marketed software to Cherry Creek School District in Greenwood Village, Colorado and used software to generate a schedule for the 2015/2016 school year which showed a ten-fold improvement in teacher and student conflict counts from past schedules

Network Topology Optimization Research — 01/2015 – Present
- Designed and implemented wireless LAN modelling environment which renders geographic network topology and calculates interference metrics for given topologies
- Implemented and analyzed performance of various greedy algorithms for topology generation for both randomized and geographically clustered networks

Physics Word Problem Solver and Linux SMS I/O Project — 10/2014 – 1/2016
- Designed and implemented a natural-linguistics-based physics word problem solver which can receive problems over SMS, analyze them for provided parameters and queries, and send answers via SMS
- Created an SSh-over-SMS system at HackRice 2016 which allows users to run a virtualized unix shell over text message and send/receive shell commands and replies using a two-factor authenticated system

Autonomous Arduino-Based Robot — 8/2015 – 12/2015
- Led multidisciplinary team which designed and built autonomous robot to traverse a 20'x20' playing field and use custom-built sensors to monitor wind speed and conductivity/water content in a soil sample
- Won first place in a final competition of 16 teams

WORK EXPERIENCE:

Teaching Assistant for SMU Data Structures Course — 01/2016 – Present
- Assists in the lab sections for CSE2341 at SMU by guiding students with their lab assignments and grading students' lab submissions

Private Software Development Consulting — 08/2014 - Present
- Among other projects, built an Arduino / Android based anti-texting-and-driving system which detects phone usage by driver and triggers the car alarm on a Ford F-150 using a Bluetooth signal between Android and Arduino and an injected electrical signal on the F-150 entertainment circuit board

Private Tutoring — 09/2011 – Present
- Subjects include Java programming, calculus, Spanish, and American Computer Science League (ACSL)

References available upon request — github.com/ianjjohnson