

TYLER BUGBEE

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PROFESSIONAL SUMMARY

Motivated computer science student eager to begin a career in software engineering. Passionate about big data, building solutions, and autonomy.

EDUCATION

University of Georgia – Athens, GA
Bachelor of Science, Computer Science

Expected Graduation: December 2017
GPA: 3.34

Georgia State University – Atlanta, GA
Honors College
Bachelor of Science, Computer Science

June 2014 – May 2015
GPA: 3.74

EXPERIENCE

University of Georgia Small Satellite Research Laboratory – Athens, GA
Electronics Team - Research and Payload Integration Specialist

February 2017 – Present

- I operate as an undergraduate researcher in the Small Satellite Research Lab on two missions funded by NASA and the Air Force Research Laboratory
- I integrate software and hardware aspects with existing systems:
 - Interfacing complex software infrastructures with existing libraries
 - Evaluating payload requirements and determining methods of integration
- I am currently developing the operating system and hardware drivers for the on-board imaging processing subsystem for the MOCI satellite mission using an array of hardware description languages and system-level languages such as C and C++.
- Software libraries are written in C++ and include NVIDIA CUDA workloads focused on image processing and mesh layer generation
- Satellite payloads include imaging sensors, GPUs, and FPGAs
- Primarily involved with the MOCI Mission - <http://smallsat.uga.edu/research>

Broadspire – Atlanta, GA
Junior Software Engineer

June 2015 – Present

- I operate as a key team member of the IT business unit dedicated to establishing a Robotic Process Automation COE
- I utilize the Agile framework to manage and execute the PoC and Pilot phases of the project
- My work crossed over multiple disciplines including Software Engineering, Project Management, and Research and Development
- Conducted machine learning research and model creation
 - I implemented Vowpal Wabbit with python to make predictions over a large dataset
 - I fine-tuned key parameters of the core algorithm to arrive at an accurate model
 - I implemented deep learning with the H2O suite to make predictions over a large dataset
- Participated in a focus group tasked with conceptualizing and managing the implementation of a mobile app
- Developed, executed, and managed multiple marketing projects involving extensive logistics and corporate communication

SKILLS	TOOLS	PROJECTS
<p>C/C++ – Proficient with emphasis in several advanced topics such as templates, memory management, operator overloading, and inter-process communication</p> <ul style="list-style-type: none"> Additional exposure to networking functions using C++ such as network IPC <p>Java – extensive problem solving experience including intermediate levels of recursion</p> <p>Python – Intermediate to advanced program design</p> <ul style="list-style-type: none"> Advanced topics such as lambda functions applied to list comprehension <p>SQL – Big data application of intermediate SELECT statements with levels of aggregation</p> <ul style="list-style-type: none"> Additional personal experience with more advanced SQL functions such as joined tables <p>JavaScript – exposure to the node.js and angularJS frameworks</p>	<p>Linux – Proficient in Linux systems and various kernels</p> <ul style="list-style-type: none"> Knowledge of Linux (bash) shell commands Personal study of the LPI Introductory Program <p>Git – experience with using repositories and Git shell functions</p> <ul style="list-style-type: none"> GitHub: https://github.com/tbarc <p>APIs – knowledge of end to end implementation and authentication</p> <ul style="list-style-type: none"> Experience with implementing OAuth and OAuth 2 authentication methods Experience with JSON and XML 	<p>Binary Search Tree implementation and analysis –</p> <ul style="list-style-type: none"> C++ object-oriented project focused on implementing a true binary tree with extensive member functions <p>Arithmetic/Bitwise expression calculator –</p> <ul style="list-style-type: none"> C++ project which accepts numerical input and evaluates every possible arithmetic and bitwise expression that utilizes the given values to arrive at the given result <p>Search Algorithm implementation and analysis –</p> <ul style="list-style-type: none"> C++ project focused on efficiency comparisons between search algorithms on large datasets Conducted efficiency analysis including runtime/space complexity

EXTRACURRICULAR ACTIVITIES

Marching/ Concert Band

2010 – 2014

Percussion Section Leader

- BOA Super Regional Championships – 2010, 2011, 2012, 2013 – Atlanta, GA - Finalists
- BOA Grand National Championships – Indianapolis, IN – 2012 – Finalist

Percussion Ensemble Member

Quartet Leader/Participant

Symphony Orchestra Percussionist (One of 5 chosen)

- Music for All Midwest Clinic – Chicago, IL – 2012

Accomplished Concert Pianist

- Extensive classical study since ~2000
- Continued private study

ACCOMPLISHMENTS

- AP Scholar with Distinction
- University of Georgia Dean's List 2017
- Georgia State University President's List 2014