
MATTHEW J. HEMS

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EDUCATION & ACCOMPLISHMENTS

Binghamton University, State University of New York

Master of Science, Computer Science	expected 5/2017
Bachelor of Science, Computer Science, <i>summa cum laude</i>	5/2015
Bachelor of Arts, Mathematics, <i>summa cum laude</i>	5/2015
Member Upsilon Pi Epsilon, Pi Mu Epsilon	
Eagle Scout	12/2008

RELEVANT SKILLS & COURSEWORK

Programming Languages Python, C++, Java, C
Elective courses include Compilers, Graph Theory, Computer Security, Machine Learning

Dynamic Generic Map (C++ 11)

- Growable, templated map similar to `std::map` using a binary search tree
- $O(\log n)$ average case lookup and insertion; bidirectional iteration provided

Decision Tree for Music Genre Classification (Python)

- Pre and post pruned decision tree to decide genre given a song's acoustic features
- Harnessed 3rd party libraries pandas and pydot for data processing and visualization respectively

Compiler Semantic Checking (Java)

- Multiple passes over AST for name resolution and type checking for Decaf subset of Java

Miniature Shell (C)

- Simple Unix-style shell with I/O redirection, signal handling, and job control

Client/Server Word Counter (C)

- Multi-threaded TCP server handles client requests over for N most frequent words among files
 - Server offers clean shutdown via signal and also logs transaction details
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EMPLOYMENT

Teaching Assistant 8/2015 – Present

Binghamton University, Binghamton, NY

- Created content for and led weekly lab sections for students in CS 140: Programming with Objects
- Responsible for grading weekly assignments/labs and holding weekly office hours

College Technical Intern 6/2014 – 8/2016

Lockheed Martin, Owego, NY

- Tuned performance of existing mailpiece algorithms to increase finalizations and reduce error
- Targeted and optimized existing handwriting recognition algorithms

Summer Camp Assistant Supervisor 6/2013 – 8/2013

Summer Camp Counselor 6/2012 – 8/2012

Perinton Recreation and Parks, Fairport, NY

- Managed and planned daily camp operations for 80 campers, ages 5 to 13
- Conducted regular staff performance evaluations for 7 site counselors
- Wrote weekly newsletters to parents