

# HUNTER S. JOHNSTON

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<https://devpost.com/husujo>

## COMPUTER SCIENCE, EDUCATION & ACTIVITIES

### University of Rochester

*Bachelor of Science in Computer Science,*

- Dean's List Spring 2015
- Relevant Coursework: Data Structures; Computation and Formal Systems; Artificial Intelligence; Computer Organization/Architecture; Efficient Algorithms; Computer Models and Limitations; Discrete Mathematics; Calculus I, II, and III, Linear Algebra and Differential Equations; Probability; Advanced Computer Architecture; Operating Systems; Programming Language Design and Implementation; - Current: Multiprocessor Architecture, Parallel and Distributed Systems
- Publicity Chair of Astronomy Club (Fall 2015); Secretary of Student of Liberty Club (Fall 2014 - Spring 2016)

Rochester, NY

Expected May 2018

Cumulative GPA 3.27

## WORK/VOLUNTEER EXPERIENCE

*Computer Science TA (CSC 252 - Computer Organization)*

Spring 2017

- Office Hours, grade exams and projects

*Computer Science TA (CSC 173 - Computation and Formal Systems)*

Fall 2016

- Lead workshop Q&A sessions, grade tests/projects

*Computer Science Workshop Leader (CSC 171 - Intro to Java)*

Spring 2016

- Guide students through problems

*Computer Science Undergraduate Council Volunteer Tutor (CSC 171, CSC 172, CSC 173, CSC 252)*

Spring 2016 - Spring 2017

- Help students debug their code, or help them with concepts. Whatever they need, really.

*Job Site Manager for College Pro Painters*

Summer 2016

- Interact with the customer, paint with my crew, and oversee the job. Paint up to 40 ft high. Responsible for meeting the budget, and equipment upkeep.

## PROGRAMMING EXPERIENCE / PROJECTS

- **Bakit** (BrickHack spring 2017 at Rochester Institute of Technology <https://devpost.com/software/bakit-20>)  
Hands free baking assistant. Speech detection api 'annyang', food api 'food2fork' Written in Node.js, Javascript, HTML/CSS
  - **Megaface** (DandyHacks spring 2017 at University of Rochester <https://devpost.com/software/megaface>)  
Selfie game, most emotive picture wins! Using Microsoft's emotion detection api. Written in Node.js, socket.io, Javascript, HTML/CSS
  - **Shell**  
A Shell that supports foreground/background execution, pipes, signal handling, and built in commands. Written in C
  - **MIPS Assembly Processor**  
Single Cycle 16 bit MIPS Microprocessor. Supports memory, arithmetic-logical, and branch instruction classes. Written in Verilog
  - **Calculator Grammar Parser**  
A Calculator implemented using a Context Free Grammar parser and a Deterministic Finite Automata scanner. Builds and evaluates the syntax tree according to order of operations. Written in C
  - **Syntax Error Recovery Parser**  
Parser with syntax error recovery for a simple language. Generates a syntax tree if no syntax errors. Written in C/C++
  - **Distinct Prime Partitions**  
Program to calculate the distinct prime partitions of a given number. For example:  $24 \Rightarrow (13+11), (19+5), (19+3+2), (17+7), (17+5+2)$ .  
Duplicated in multiple languages (C#, Scheme, OCaml, Ada)
  - **NQueens**  
N Queens Problem (how to place 'N' queens on an NxN chessboard such that no queen threatens another?) solver using Backtracking and Minimum Conflict algorithms. Written in Scheme
  - **Clustering**  
K-Means and Hierarchical clustering Algorithms and Visualizations. Written in Java with Graphics.
  - **Mastermind**  
An algorithm that correctly guesses a code in the game Mastermind. Can take variable number of tokens/positions. Written in Java
  - **Linux Kernel System Call**  
A system call to get info about a process like user time, child/parent process ids, open file descriptors, etc. Written in C
- Exposure to other programming Languages/Software: Assembly (MIPS), HTML/CSS/Javascript, JQuery, Bootstrap, Bash, C#, Unity, OCaml, Node.js, Socket.io, MPI, pthreads, java threads, Linux Kernel, ruby