**Charles DiGiovanna**

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**Education:**

**Binghamton University, State University of New York**

**Bachelor of Science in Computer Science, Expected May 2017**

**Bachelor of Arts in Mathematical Sciences, Expected May 2017**

GPA: 3.71; Dean’s List Fall 2013, Spring 2014

**Skills:**

**Programming Languages**: Python, C, Java, HTML, CSS, JavaScript, PHP, MATLAB

**Programs**: Git, MATLAB, Mathematica, Microsoft Excel, Minitab, Solid Edge, Xilinx ISE

**Projects:**

**Independent Projects** *See the code at:* ***www.github.com/cd17822/Tkinter-Ventures***

*NeighborhoodFor.me – November 2014*

* Worked with 3 team members to design a service for citizens to become more involved in the community
* Text messages could be sent from organizations so that those without internet access could stay connected
* Set up communication between the site and a Mongo database via JavaScript and organized the database

*Palindromica – November 2014*

* Developed an original game where a user clicks to expose palindromes from a moving string of digits
* Digits or spaces can be clicked in order to expose an odd/even palindrome with auto-detected length
* Includes an elegant, simplistic user interface with a detailed instruction screen

*Bonkers – July 2014*

* Built an original game where a user creates barriers to deflect a ball away from black holes and into a goal
* Added a level-creator mode where I designed multiple levels by moving objects and saving their positions
* Level-saving and high score-saving were made possible by using File I/O methods

*2048 Design and AI – May 2014*

* Designed a fully functional replica of the popular game, “2048,” that can be played using the arrow keys
* Includes a heuristic artificial intelligence with the ability to solve the board any time the user tells it to
* Devised a segment of code able to run multiple simulations of the AI to gather statistics on success rates

**Binghamton University**

*Wearable Power – April 2014*

* Designed a hypothetical wearable power source that would generate electricity from ambient energy
* Utilized Solid Edge to create a CAD model of our device with intricate detail and precise measurements
* Compiled a 50+ page engineering report with 7 teammates to sell our idea while honing collaboration skills

*Arduino Speedometer – October 2013*

* Applied my knowledge of circuitry to create and improve upon an Arduino-based speedometer design
* Utilized the Arduino IDE to code the intended processes and upload the design onto an Arduino logic board
* Presented the team’s fully-functional final project at a university-wide engineering exposition

**Experience:**

*Computer Architecture Research Lab, Research Assistant – September 2014-Present*

* Imported and experimented with the gem5 simulator system on my machine
* Gathered simulations of the ALPHA, ARM, and x86 architectures to run benchmarks and simulation scripts
* Created scripts and binaries to test on the ALPHA and ARM architectures to begin developing a benchmark

**Community Involvement:**

**BU Pipe Dream,** *Web Developer December 2014-Present*

**HackBU,** *Active Member* *October 2014-Present*

**Computer Architecture Research Lab,** *Research**Assistant**September 2014-Present*

**Dickinson Residential Community,** *Student**Mentor**August 2014-Present*

**Good Samaritan Hospital, West Islip NY,** *Junior Volunteer February 2009- January 2013*