

# Charles DiGiovanna

469 French Ave. North Babylon, NY 11703 • (631) 901-6772 • cd17822@gmail.com • www.charlied.me

---

## 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: 3.62/4.00; Dean's List Fall 2013, Spring 2014, Fall 2015, Spring 2016

## Skills

---

**Programming Languages:** Swift, Python, Java, C++, C, JavaScript, CoffeeScript, HTML, CSS, Pug

**Programs:** Git, XCode, iOS, Node.js, MongoDB, Solr, SQL, Bootstrap, LaTeX, Microsoft Office, Realm, Vim, JFLAP

## Experience

---

*Bloomberg, Software Engineering Intern*

*May 2016 – August 2016*

- Improved upon financial applications by making enhancements to UI and corresponding back-end services
- Researched and developed scripts for applications to better gather and parse data from a Solr search engine

*Codecademy, Pro Advisor*

*February 2016 – May 2016*

- Guided newcomers through the steps needed to reach their goals, and reasoned through code in their exercises
- Utilized and enhanced professional communication skills by advising users in various programming languages

*Zipdrug, Software Development Intern*

*June 2015 – August 2015*

- Created a dashboard utilizing both front-end and back-end development skills for the company to manage orders
- Improved upon Zipdrug's API, and automated internal services to create a more seamless ordering process

## Projects

---

*See the code at: [www.github.com/cd17822](http://www.github.com/cd17822)*

### Binghamton University

*Log-Structured File System Simulator*

*May 2016*

- Studied the intricacies of a log-structured file system and designed a simulator in C++
- Supported replications of various Unix commands for users to read and write files to the virtual system
- Created custom commands to help the team test and debug the system as collaboration was ongoing

*Radio App Simulator*

*December 2015*

- Applied my knowledge of C++ to design and implement a simulation of an online radio app
- Allowed for user input of new songs, likes and dislikes, number of songs, start times, and rests to elapse time
- Implemented a hybrid of a hash table and heap to ensure efficient lookup times for the functions listed

### Independent Projects

*Imbored.*

*December 2015*

- Developed an iOS app to occupy people who are bored using XCode, Swift, Realm, and iAd
- Created database models for activities and categories so that users can enter data tailored to their interests
- Received approval from the App Store to publish the app and was able to collect revenue from advertisements

*Cutoff-catcher*

*September 2015*

- Developed a search algorithm utilizing specified step iterations followed by a recursive binary search
- Optimized algorithm performance by testing techniques like rounded division, recursion, and adjusted iteration
- Published the package to npm for public use and open-source feedback and accumulated over 500 downloads

*2048 Design and AI*

*May 2014*

- Designed a fully functional replica of the popular game "2048" in Python which is played using the arrow keys
- Included a heuristic artificial intelligence with the ability to solve the board any time the user tells it to
- Created a script to run multiple simulations of the AI and gather statistics on success rates

## Extra-Curricular

---

**Microsoft Coding Competition, First Place**

*September 2015*

**Coding For A Cause Hackathon, Second Place**

*November 2014*

**HackBU, Active Member**

*September 2014 – Present*

**Computer Architecture Research Lab, Research Assistant**

*June 2014 – May 2015*

**Dickinson Residential Community, Student Mentor**

*August 2014 – August 2015*