

Julia Sutherland Opatrny

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EDUCATION

Hamilton College Clinton, NY

2016-present; Expected graduation May 2020

- Bachelor of Arts Degree in Computer Science; minors in Digital Arts and Music
- Cumulative GPA: 3.418 – Dean’s List Spring 2017, Fall 2017 and Fall 2019
- **Relevant coursework:**
 - *Data Structures*: built and applied data structures in C++.
 - *Discrete Mathematics*: studied mathematical models and techniques commonly used in computer science.
 - *Principles of Programming Languages*: learned the features, design, and implementation of programming languages.
 - *Computer Organization and Assembly Language*: learned and applied assembly language and low-level computing techniques to solve problems by manipulating data and memory at the hardware level.
 - *Applied Theory of Computation*: investigated the nature of computation and the applications of abstract models of computation.
 - *Artificial Intelligence*: explored AI theory and philosophy, as well as a variety of algorithms and data structures such as heuristic strategies, logic unification, probabilistic reasoning, semantic networks and knowledge representation.
 - *Database Theory and Practice*: gained a foundational theory behind relational algebra, database models, and practice with SQL.
 - *Compilers*: studied the translation of high-level languages into assembly language.
- **Proficient in:** Python, JavaScript, C++, MS-DOS, SQL, Prolog, Smalltalk, Clojure, SML, Perl, Ruby, Java, HTML, CSS, Adobe Photoshop, Adobe InDesign, Adobe Illustrator, Adobe Premiere Pro, Word, Excel, PowerPoint
- **Projects:**
 - *Decaf Compiler* (Fall 2019): built a compiler in C++ that compiles Decaf code into Jasmin assembly code.
 - *Art History Fantasy Collecting Website* (Fall 2019): used a MERN stack (MySQL, Express, React, Node.js) to create an art-collecting website commissioned by the Hamilton College Art History Department, to be used by Hamilton art history students.
 - *Employer User Homepage* (Summer 2019) for WorkMarket, an ADP Company: independently created, while employed by WorkMarket, a new employer user dashboard for their website using JavaScript and React framework.
 - *SIC/XE Assembler in Python* (Fall 2018): developed a program that performs a two-pass compilation of assembly language into machine language.
 - *Hexdump Written in Assembly* (Fall 2018): created a program that emulates UNIX hexdump capability, but written in assembly language.
 - *Huffman Encoding Algorithm* (Fall 2017): programmed a compression algorithm written in C++ utilizing Huffman Encoding and binary tree data structures.
 - *Sudoku Puzzle Solver* (Fall 2017): Coded a backtracking algorithm in C++ to successfully solve any and all Sudoku puzzles.

Hamilton Freshman Semester in London Arcadia University

September-December 2016

The Brearley School New York, NY

2003-2016

EMPLOYMENT HISTORY

Software Engineer Intern at WorkMarket, an ADP Company New York, NY

June-August 2019

- In a paid summer internship, worked on project-based assignments involving front-end and back-end technologies, data analytics, AI, database management, and quality assurance. WorkMarket provides a cloud-based enterprise software platform for businesses to manage their agile workforce.

Computer Science Teaching Assistant at Hamilton College Clinton, NY **August 2017-December 2018**

- Selected for paid position by faculty of Hamilton's Computer Science Department. Graded homework, exams, and lab assignments for Intro to Computer Science and Data Structures classes, and helped students with their programming issues, debugging, and other problems during walk-in lab hours.

Camp Counselor Camp Treetops, Lake Placid, NY **Summers 2017 and 2018**

- Responsible for leading thirteen-year-old girls at an Adirondack summer camp in activities including mountain climbing, backpacking, lifeguarding, arts & crafts, and farm chores.

STUDENT ACTIVITIES

Hamilton College Campus Activities Board **January 2017-present**

- **Concerts Coordinator** - September 2018 – present; **Publicity Coordinator** - January 2017 – September 2018
- Plans and programs concerts; coordinates publicity, hospitality, and security for each event; manages a \$100,000+ budget; works with artists that have included Charli XCX, Waka Flocka and Galantis; designed posters, tickets, and other publicity for all events on campus.

Signature Style Layout Editor **September 2018-present**

- Uses Adobe InDesign to lay out the visual design of *Signature Style*, Hamilton's fashion magazine.

Music Activities **September 2017-present**

- **Hamilton College Orchestra** Violinist; **Hamilton College Jazz Ensemble** Drummer; **Drummer** in two student bands: Juice and Yonic Youth

HEAT: member of Hamilton's student-run hip-hop dance group. **January 2017-March 2019**

Hamilton College Robotics: member of student-run robotics group. **January 2017 - March 2017**

WHCL 88.7 FM: DJ's an hour-long hip-hop/alternative format radio show. **January 2017 - present**

Brearley-Chapin Double X Robotics Team **2014-2016**

- Member of an all-female team that designed, built, and programmed joystick-controlled robots to compete in FIRST Robotics Competitions; mentored by NBC Universal Comcast employees.

EXPERIENCES

Grace Hopper Celebration of Women in Computing Orlando, FL **October 2017**

Month-Long Backpacking Trip with National Outdoor Leadership School Whitehorse, Coast Range Mountains, Yukon, Canada **July 2015**

Participant in Job Shadow Program at Columbia Memorial Hospital Hudson, NY **August 2015**

Flatiron School Software Engineering Program New York, NY **June 2015**

SKILLS AND INTERESTS

Computer Programming; Digital Arts (college courses have included Video Production and Editing, Animation, and Music Production); Music (Violin, Drums, Guitar); Visual Arts (college courses have included Drawing, and Printmaking); Mountain Hiking (have hiked over 40 Adirondack peaks)