

# Alejandro Servetto

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## Education and Honors

**State University of New York at Binghamton, Watson School of Engineering**

**Expected May 2021**

*Bachelor of Science in Computer Science*

Cumulative GPA 3.64/4.00 | Dean's List Spring 2020

**Tompkins Cortland Community College**

**May 2019**

*Associate of Science in Computer Science*

Cumulative GPA 3.72/4.00 | Dean's List Spring 2018 – Spring 2019

**Phi Theta Kappa National Honor Society**

**December 2019**

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## Technical Skills

**Programming Languages:** Python, Java, C, C++, Bash, JavaScript, Rexx, HTML, SQL, ARM Assembly

**Other Software:** GDB and Eclipse Debugger, z/OS Mainframe, Unix Shell, Git / GitHub

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## Professional Experience

**Binghamton University, Course Assistant | Binghamton, NY**

**September 2020 – Present**

- Provided supplemental instruction in an introductory course to data structures and algorithms in C++
- Answered students' questions via weekly office hours and online forum posts
- Debugged code with students in ways that set them up to understand their problems and work independently
- Explained the broader applications of the material to help students contextualize their learning

**Binghamton University, Research Assistant | Binghamton, NY**

**September 2019 – Present**

- Developed a Java library that reads and controls to computer energy levels, to be used in energy-aware programs
- Used the Java Native interface to call C functions that provide low level access to energy-related machine registers
- Consulted Intel documentation to learn how to interface with machine registers
- Described existing and proposed features / design of the library with JavaDoc and UML diagrams
- Assessed memory and run time overhead of key program features, optimizing where necessary
- Collected, parsed, and visualized overhead assessments with Bash scripts and Python's Matplotlib module
- Implemented multi-threading to asynchronously gather energy samples
- Discussed ideas with other graduate students working on similar energy-aware projects

**IBM, Software Engineer Intern | Poughkeepsie, NY**

**June 2020 – August 2020**

- Designed a tool to delete the master key verification pattern (MKVP) of a cryptographic key data set (KDS)
- Learned the relevant concepts of cryptographic keys and key data sets to understand how to make and test the tool
- Consulted company documentation and the web on how to write Rexx scripts, parse KDS, and delete MKVP
- Implemented and tested tool on IBM's z/OS mainframe with a series of Rexx and JCL programs
- Added features to a website for internal company communication using React, Node, IBM Carbon UI, and CouchDB
- Handled form submission conflicts between users by comparing JSON fields in database entries
- Refactored website code to provide accessibility for blind users to interact with the website via screen reader
- Researched web development concepts and techniques online due to lack of prior experience
- Modified and submitted code changes on GitHub with branching and pull requests
- Communicated extensively with coworkers to resolve questions that primary research could not answer

**Tompkins Cortland Community College, Peer Tutor | Dryden, NY**

**September 2018 – May 2019**

- Tutored students individually in Math, Chemistry, Biology and Computer Science courses
  - Tailored explanations to age-and-culturally diverse selection of students
  - Coordinated abilities with coworkers to help one another when difficulties arose tutoring a student
  - Attended weekly training sessions to ask questions, receive feedback, and learn about new tutoring practices
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## Project Experience

**Energy Monitoring Web Application | Personal Project, currently in progress**

**December 2020 -- Present**

- Developed a web application that reports energy consumption of a remote server
- Repurposed the energy reading utilities from above mentioned Undergraduate Research project
- Implemented a Java back end which reads energy consumption and sends it to React.js front end

**Unix Shell To-Do List Manager | Personal Project**

**September 2019 – Present**

- Created a Unix-shell based application that manages, edits, and displays to-do lists on the command line
- Learned independently how to write shell scripts by reading Bash documentation and online tutorials
- Filtered output of lists based on categories such as priority assignments, upcoming exams, small tasks, etc.
- Upgraded features throughout personal use, making additions as ideas arose and technical proficiency developed