

# Kyle Franke

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## Education

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**Binghamton University**, State University of New York (Double Major)

**May 2019 expected**

**Overall GPA: 3.70/4.00 | Dean's List: Watson & Harpur, Spring 2016 – Present**

**Watson School of Engineering at Binghamton**, Bachelor of Science in Computer Science

**Major GPA: 3.87/4.00**

**Harpur College of Arts and Sciences at Binghamton**, Bachelor of Arts in Mathematical Sciences

**Major GPA: 3.93/4.00**

## Technical Skills

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**Strong languages:** Java Enterprise, Python, C++, C, X-86 Assembly, LaTeX

**Software and OS:** Eclipse, JUnit, Ansible, vim, JIRA, Jenkins, VirtualBox, IDLE, Git, Windows, CentOS and Ubuntu

**Additional:** Agile, Swing, Clover, JavaScript, HTML/CSS, digital circuit design, number & set theory, multithreading

## Professional Experience

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**Lockheed Martin, Software Engineering Intern**

Owego, NY, **May 2018 – August 2018**

- Worked with two mid-size Agile teams on a classified project on algorithms, automation of tasks, and integration
- Analyzed algorithms in Java and found inefficiencies to solve existing problems and reduce program complexity
- Saved developer time by designing and implementing a system to automatically test software builds overnight
- Made problem solving easier by writing software to save, analyze, and group internal errors in runtime logs
- Cooperated with system engineers and read their problem reports to find and address issues in our code
- Engaged in code reviews and SCRUMs with clients, peers, and team leads through Agile to improve productivity

**Shute Engineering, Intern**

Goshen, NY, **May 2016 – August 2016**

- Fixed, optimized, and updated the software of old and previously broken or unusable PCs in the office
- Organized a common file network between office computers so important documents could be accessed anywhere
- Wrote Python scripts to automate the verification of spreadsheets, device statuses, and document structure

## Projects *[available on my GitHub; see top of document]*

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**Super Sweet File System (ssfs)**

Binghamton, NY, **April 2018 – May 2018**

- Architected, implemented, and tested a virtual file system written in C++ with three other peers
- Wrote high- and low-level “write” and “read” functions that correctly processed several gigabytes of data at once
- Collaborated with peers and established version control using Git, presented to an audience upon completion

**Xyphos**

Montgomery, NY, **March 2017 – August 2017**

- Coded an original Python program inspired by HBO’s “Silicon Valley” that compresses and decompresses text files
- Manipulated text files using string methods and hash maps to compress files by as much as 25% in under a minute

**Binary Xyphos**

Binghamton, NY, **May 2018 – September 2018**

- Developed a second iteration of Xyphos in C with a completely new design to decrease time & space complexity
- Using Huffman Coding and the LZ77 method to compress text files by 50-70% in a fraction of a second
- Achieved efficiency comparable to open-source compressors like Brotli and ZStandard by Google & Facebook

## Leadership and Volunteer Experience

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**LeetCode, Content Creator and Participant**

Binghamton, NY, **January 2018 – Present**

- Contributing several algorithm problems, solutions, and tests to a free competitive coding/interview prep startup
- Ranked ~95<sup>th</sup> percentile on overall problem completion/accuracy, ~80<sup>th</sup> percentile on weekly contest leaderboards

**Upsilon Pi Epsilon, Tutoring Coordinator of Iota Chapter**

Binghamton, NY **August 2017 – Present**

- Tutoring students in courses such as Computer Systems I & II, Data Structures, Combinatorics, and Calculus I-III
- Leading other tutors to optimize efforts as the officer in charge of tutoring, effective March 2018

**HACK BU, Organizer**

Binghamton, NY, **January 2016 – Present**

- Creating and delivering weekly presentations on useful technology and organizing semesterly hackathons