**Ka Hou Lou**

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**EDUCATION:**

**Stony Brook University**, Stony Brook, NY

*Bachelor of Science in Computer Science*

• Cumulative GPA: 3.47 Expected May 2019

• Computer Science Honors Program

• Dean's List for 2016 and 2017

• **Related Courses**: Analysis of Algorithms, System Fundamentals, Computer

Networking, Principles of Database Systems, Cloud Computing

**TECHNICAL SKILLS:**

**Programming Languages**: Java, C, JavaScript, Python

**Skills**: Unix, Git, Eclipse, Flask/Apache2, HTML/CSS/Bootstrap

**PROJECTS:**

**Unix Shell**

* Built a command-line interface in C for the Unix system to supporting common shell operations.
* Created a command parser to process user input.
* Used functions such as fork and exec to launch new processes.
* Supports built-in functions, executables, IO redirection, piping, and more.

**Dynamic Memory Allocator**

* Implemented a segregated free list allocator in C for a 64-bit machine to manage memory.
* Created malloc, realloc, and free functions to manipulate memory.
* Used header/footer bytes in memory blocks and systematic coalescing into explicit free lists to update state of memory.
* Wrote unit tests to ensure correctness of memory allocator.

**GPS Navigation System**

* Made an application in Java Swing with functionality similar to a car navigation system.
* Parsed data from OSM file to obtain geographical points used to create a visual display of the map
* Utilized Dijkstra’s algorithm to create driving directions and recomputes if user deviates from computed route.
* Optimized to handle large maps by specifically rendering data within user’s current geographic region, with consideration to zoom factor and screen size.