**Brandon Luong**

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**EDUCATION**

**Rutgers University, Honors College School of Engineering** September 2018 – May 2022

*Bachelor of Science (B.S.) in Computer Science & Electrical & Computer Engineering* New Brunswick, NJ

* **GPA:** 3.85 / 4.00
* **Awards & Honors:** Distinguished Scholar Award, Rutgers Scarlet Scholarship, Merton D. And Sylvia Levey Endowed Scholarship, Dean’s List (all semesters)
* **Coursework:** Data Structures, Operating Systems, Systems Programming, Computer Architecture, Design and Analysis of Algorithms, Principles of Programming, Differential Equations, Discrete Math

**EXPERIENCE**

**Rutgers Center for Critical Intelligence Studies & National Intelligence University** June 2020 – Present

*Data Science Intern* New Brunswick, NJ (Remote)

* Designed modular program using **Python** that predicts crop yields in West Africa based on designated crops, climate & geography data **APIs**, time, location, and algorithms chosen by the user
* Identified the most accurate and fastest algorithms by comparing the percent errors between different algorithms and actual crop yields in West Africa
* Showcased program prototype to analysts in the U.S Department of Defense, as a viable tool for analysts on the ground in West Africa

**PERSONAL PROJECTS**

**Version Control System**

* Implemented a version control system in **C**
* Used **multi-threading** and **mutexes** to allow multiple clients to push, pull, commit, clone, fetch, and update repositories simultaneously
* Allowed for version checks, repository change history, and rollbacks to previous versions

**Temperature/Humidifier Logger**

* Constructed a temperature and humidity tracker using an **Arduino** that takes in the surrounding temperature and humidity using sensors
* Utilized **C++** to code the software to periodically measure, record, and display the temperature/humidity on a screen

**Animal Identification Program**

* Employed **Python** and **deep learning** to train an AI to identify certain animals designated by the user
* Returned whether the designated animal was present in the image and how many were found

**File Decompression and Compression Program**

* Used **C** to create a program that can compress files and directories specified by the user through Huffman coding that can later be decompressed using the same program
* Implemented binary search trees to minimize the running time of the program

**LEADERSHIP**

**Rutgers Engineering Governing Council** September 2019 – Present

*Chair of Society Affairs* New Brunswick, NJ

* Managed 40+ student organizations in the School of Engineering as the head of the society affairs committee
* Spearheaded a team of 11 to identify issues within engineering organizations and develops workshops, events, and online resources to solve these issues

**Rutgers Engineers Without Borders**September 2018 – Present

*Camden Project & Software Lead* New Brunswick, NJ

* Directed a team of 10+ to devise an automatic irrigation algorithm based on weather and soil moisture level using **Python** and a **Raspberry Pi** to build a smart water irrigation system in Camden
* Used the weather **API** to collect local weather data and build an efficient irrigation system

**SKILLS**

**Proficient in:** Python, C, Java, MATLAB, Ocaml

**Some experience with:** C++, x86 Assembly, Prolog