# Brandon Luong

1529 Sussex Turnpike, Randolph, NJ 07869 | 2000bluong@gmail.com | https://bluong2000.github.io/ | (862) 251-9828

## EDUCATION

**Rutgers University, Honors College School of Engineering** September 2018 – May 2022
*Bachelor of Science (B.S.) in Computer Science and Electrical & Computer Engineering* New Brunswick, NJ

- **GPA:** 3.88 / 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

**Capital One** June 2021 – August 2021
*Software Engineer Intern* New Brunswick, NJ (Remote)

- Designed automated big data pipeline using **AWS EMR**, **Apache Spark**, **AWS Step Functions**, **AWS Lambda**, **AWS Cloudwatch, AWS SNS Topics, Cassandra**, and **Python** to edit millions of records
- Implemented **AWS EMR** autoscaling clusters to run **Spark** to lower costs and decrease the time of big data jobs
- Constructed the pipeline with **AWS Step Function** pipeline along with error handling logs to **AWS Cloudwatch,** and **AWS SNS topics** to automatically notify developers about the job status or errors
- Automated the pipeline using **AWS Lambdas** to trigger the **Step Functions workflow** upon specific events

**Rutgers Center for Critical Intelligence Studies & National Intelligence University** June 2020 – December 2020
*Software Engineer Intern* New Brunswick, NJ (Remote)

- Designed modular program using **Python** that predicts crop yields in West Africa based on designated crops, climate data streams, time, location, and algorithms chosen by the user
- Identified the most accurate and fastest algorithms by comparing between different algorithms and actual crop yields in West Africa
- Showcased program to analysts in the U.S Department of Defense, as a 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
- Incorporated 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

## LEADERSHIP

**Rutgers Engineering Governing Council** September 2019 – Present
*Chair of Society Affairs, Treasurer* New Brunswick, NJ

- Managed 40+ student organizations and a $200k+ budget in the Rutgers School of Engineering
- Spearheaded a team of 11 to allocate $200k+ to 40+ organizations for projects, events, and conferences
- Identified issues within organizations then developed workshops, events, and online resources to solve the issues

**Rutgers Engineers Without Borders** September 2018 – Present
*Camden Project & Software Lead, Events Coordinator* 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 to grow produce for people in Camden
- Orchestrated a weather API, moisture sensors, solar panels, a car battery, and a water pump to automate the system

## SKILLS

**Proficient in:** Python, C, AWS, Java, MATLAB, Ocaml
**Some experience with:** C++, Prolog, x86 Assembly, Spark