

# Frank Wanye - Curriculum Vitae

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## Education

**Virginia Tech | Blacksburg, VA, USA | 2018 - Present**

Ph.D. Computer Science | Cumulative GPA: 4.0 | Expected: May 2023

*Advised By: Dr. Wu Feng*

*Relevant Coursework:*

- Operating Systems
- Big Data Text Summarization
- Algorithms in Bioinformatics
- Data Analysis

*Organizations:*

- Computer Science Graduate Council (2019 - Present)
- Olympic Taekwondo Club (2019 - Present)

**Grand Valley State University | Grand Rapids, MI, USA | 2014 - 2018**

B.Sc. Computer Science | Mathematics Minor | Cumulative GPA: 4.0 | Expected: April 2018

*Relevant Coursework:*

- Data Structures and Algorithms
- Discrete Structures
- Calculus and Linear Algebra
- Operating Systems
- Structure of Programming Languages
- Computer Architecture and Organization
- Data Communications

*Organizations:*

- Grand Valley Computing Club (2015 - 2018)
- Valley Brazilian Jiu-Jitsu Club (2014 - 2015)
- Just Tennis (2014)

## Publications

F. D. Wanye, V. Gleyzer, and W. Feng, "Fast Stochastic Block Partitioning via Sampling," in *HPEC*, 2019.

## Relevant Skills

### Programming Languages

Python3; C/C++; Java; Kotlin; Javascript; HTML/CSS; SQL\*Plus

### Frameworks

Tensorflow; Clang-Tidy; NumPy; jQuery; SASS; Node.js; Pandas; PyTorch

### Other

Graph Processing; Parallel and Distributed Computing; Object-Oriented Programming; Basic Neural Networks; Version Control with git; Entity/Relationship Modeling; Build Scripting with Gradle

## Research Experience

### MIT Graph Challenge | Virginia Tech | Winter 2019

Advisor: Dr. Wu Feng

- Parallelizing the MIT Graph Challenge: Stochastic Graph Partitioning problem on multi-node systems, and on GPU-enabled systems
- Evaluating the effects of parameter and design choices on the serial version of the Stochastic Graph Partitioning algorithm

### Kindschi Fellowship | Grand Valley State University | Fall 2017

Mentor: Dr. Gregory Wolffe

- Competitive fellowship awarded by Grand Valley State University
- Training a Recurrent Neural Network to predict the movements of people based on the D4D dataset from Senegal and the Ivory Coast
- Potential application: improving the accuracy of epidemiological models by providing a smarter internal model of people's movements

### Independent Study | Grand Valley State University | Winter 2017

Mentor: Dr. Gregory Wolffe

- Part of a department-approved Independent Study class
- Built a Recurrent Neural Network to generate snippets of text
- Presented the results of my study internally on Student Scholars Day (April 2017)

## Work Experience

### Virginia Tech | Blacksburg, VA, USA | December 2018 - Present

Graduate Research Assistant (Synergy Lab)

- Funded through the NSF Center for Space, High-Performance and Resilient Computing (SHREC)
- Extending LLVM's Clang-Tidy module with new linters targeting OpenCL code meant for FPGAs (FLOCL: FPGA Linters for OpenCL)

- Upstreaming FLOCL into the official LLVM codebase
- Parallelizing and optimizing the MIT Graph Challenge: Stochastic Block Partitioning problem

### **Virginia Tech | Blacksburg, VA, USA | August 2018 - December 2018**

Graduate Teaching Assistant (Computer Systems: CS 3214)

- Evaluated student work as a grader
- Held one-on-one sessions with students during office hours

### **Blue Medora LLC | Grand Rapids, MI, USA | May 2017 - August 2017**

Software Development Intern

- Worked as a part of a team to build plugins for the VRops Monitoring Platform. This included writing production code, testing, participating in meetings, and creating dashboards.
- Created a Gradle plugin to streamline the build process for the company's projects, under the supervision of my mentor.
- Worked with another intern on a python script to compare the output of two data providers (for QA).

### **Peace and Love Hospital | Kumasi, Ghana | June 2015 - August 2015**

Data Entry Intern

- Scanned, filed, organized and manually typed in information from patients' documents
- Helped build a database in MS Access to keep track of processed documents

## **Awards and Honors**

- Kindschi Fellowship (Fall 2017)
- Grand Finish Grant (Fall 2017)
- International Merit Award (Fall 2014 - Winter 2018)
- Member of the Phi Kappa Phi Honor Society (Winter 2017 - Present)

## **Research Interests**

- Parallel and Distributed Computing
- Graph Processing
- Big Data
- Machine Learning/Artificial Intelligence

## **Languages**

- English
- Russian

## **Other Interests**

Art; Reading; Piano; Soccer; Tennis; Biking; Taekwondo

**Last Updated: 20 August 2019**