

# Delmwin Baeka

<https://delmwinbaeka.me/>

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## Education

Shanghai Jiao Tong University, University of Michigan Joint Institute, Shanghai, China

Sept 2016 – Aug 2020

- **BSc. Electrical and Computer Engineering**
  - Awards: SJTU Outstanding Graduate 2020, Dean's List (Fall 2019), International Student Scholarship Award 2017
  - Papers (Unpublished): Multimodal Attention Human Action Recognition project, Why Artificial Intelligence Accelerators Are Needed for Machine Learning Inherent Tasks  
<https://github.com/dbaeka/ProjectPapers>
- **Minor in Entrepreneurship**
- **Head Teaching Assistant, Differential Calculus**
- **Assistant for Center of Entrepreneurship**
  - Lead website developer using PHP based backend and raw HTML5/CSS3 frontend

University of Maryland, College Park, USA

Spring 2020 Exchange Term

- **Electrical and Computer Engineering, 4.0 GPA**
  - Relevant Coursework: CMSC412 Operating Systems, ENEE440 Microprocessors (ARM), CMSC436 Programming for Handheld Devices (iOS), CMSC 498O Intro to Data Visualization

Kwame Nkrumah University of Science and Tech., Kumasi, Ghana

Sep 2015 – May 2016 (Incomplete)

- **B.S. Petroleum Engineering**
  - Awards: KNUST College of Engineering Best Student Award 2016, KNUST College of Engineering Excellent Student Award 2016, KNUST College of Engineering Provost List 2016/2017

## Work Experience

**Rookery Limited (Rook+), Accra, Greater Accra, Ghana**

**Chief Technology Officer | Lead Developer, Jun 2018 – Aug 2020**

- Boosted coding efficiency by 50% in software development using Travis CI and GitHub.
- Implemented a custom chat system using Firebase, lovefield (web), Realm (mobile) technologies for Web (PHP and JS), iOS and Android platforms.
- Conducted weekly extensive review, and code analysis of developer team of 5, in person and remotely.

**National Information Technology Agency (NITA), Accra, Greater Accra, Ghana**

**IP Engineer Intern, Feb 2018 – Apr 2018**

- Re-established the defunct VoIP network structure for Ghana's Ministry of Communications and NITA offices, shaving off costs completely.
- Upgraded the company Database using SQL for SolarWinds' Orion Database to sync with previous network data from Cacti.
- Supervised the Network Operations Center (NOC) team to securely migrate all network monitoring in the country to SolarWinds' Orion NPM from Cacti.
- Researched and designed a setup to integrate software and hardware PBX systems (Asterisk and Huawei PBX).

## Skills

### Spoken Languages

English (Native), French (Read, Write), Akan (Read, Write, Speak)

### Technologies

ReactJS, Django, Flutter, Sketch, XCode, Photoshop, Illustrator, vSphere, Keras, Flask, GatsbyJS, Docker, jQuery

### Languages

HTML5/CSS3 (Excellent), C/C++ (Very Good), Swift (Very Good), JavaScript (Very Good), Python (Good), PHP (Good), Verilog (Very Good), ARM Assembly (Very Good), Dart (Good)

## Projects

### Rook+ mobile app (Flutter) and homepage (ReactJS)\*

Mobile and web platform that connects students with companies for virtual internship  
(<https://myrookery.com/>)

- Designed, built and shipped mobile platform in Flutter to the App Store and Play Store with 800+ Beta stage student users
- Designed homepage UI and developed web management tool using React and PHP for companies (20+ companies)

### Project Tides (VMware) – Elastic Platform on Idle Cloud Resources

Open-source project to donate private enterprise cloud resources  
(<https://github.com/dzl84/CloudTides>)

Project paper here:

[https://bit.ly/project\\_tides](https://bit.ly/project_tides)

- Developed a tool using ReactJS frontend, Django backend and

## Projects (continued)

- k8s to monitor vSphere cloud resources usage and dynamically donate resources to public volunteer computing through BOINC.
- Currently supporting development with VMware team to extend tool for Folding@Home towards finding COVID-19 solutions.

### GeekOS x86 Kernel\*\*

*Tiny operating system kernel for x86 PCs running on Qemu.*

- Extended operating system using assembly and C to implement forking, virtual memory, file systems, synchronization.

### Tethi: Task Manager Program in ARM Assembly and C\*\*

*Custom timer-based task manager for ARM Cortex-M Processor*

- Programmed the STM32L476 Discovery board to run GPIO, ADC, DAC, SPI, I2C and timer control functions in custom task manager environment.

### Movie Data Visualization Tool in ReactJS\*\*

*Web-based tool for visualizing movie data with filter interaction control*

Demo: <https://dbaeka.github.io>

- Built a fast rendering visualization tool for movies using ReactJS.

### Repository Mining Tool for Java Code in Python\*\*

*Tool for analyzing all commits in Java repository and finding commits that have added a parameter to an existing method*

- Used abstract syntax trees (ASTs) to analyze Java code and extract updated methods.
- Designed crawler in Python to concurrently run and scale up to speed up mining process on low end machines.

### UMD Latency Research Website Tool (Flask)

*Tool for analyzing how users respond to latency when doing visual search with panning and zooming.*

(<https://visualsearchlatency.herokuapp.com/search-study/>)

- Designed visual tracking tool in Python which is scalable and synthesizes user interactions for latency analysis.

\* *Private company repository. Demo can be shown upon request.*

\*\* *Course requires private repository. Can be shared upon request.*