

NATHAN ANKOMAH-MENSAH

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EDUCATION

Purdue University — West Lafayette, Indiana Master of Science in Electrical & Computer Engineering (Class of 2021) GEM Fellow Member of Eta Kappa Nu (HKN) — B Chapter	August 2019 - Present GPA: 3.37
University of Rhode Island — Kingston, Rhode Island Bachelor of Science in Computer Engineering Bachelor of Science in Electrical Engineering Minors: Mathematics, Computer Science LSAMP Scholar Member of Theta Tau (ΘΤ) — ΣΓ Chapter	August 2014 - May 2019 GPA: 3.17
University of Ghana, Legon — Accra, Ghana University Studies Abroad Consortium (USAC) Gilman Scholar	May 2016 - August 2016 GPA: 3.73

TECHNICAL PROFICIENCIES

Research Experience/Interest: Internet of Things; Reinforcement Learning
Engineering Software/Devices/Tools: EAGLE; Git; JIRA; Trello; Multisim; Arduino; Intel Edison; Raspberry Pi; BLE
Nano; FPGA; ESP32; Multimeter; Oscilloscope; Power Supply; Signal Generator; Soldering
Data Science/Machine Learning Tools: Pandas; Numpy; Tensorflow Keras; PyTorch; Matplotlib
Programming Languages: Python; MATLAB; SPICE; C++; C; VHDL; Bash

EXPERIENCE

The MITRE Corporation — Remote McLean, VA Cyber-Physical & Mobile Technology , <i>Electrical & Computer Engineering Intern</i>	<i>June 2019 - Present</i> <i>July 2019 - Present</i>
• Utilizing Machine Learning and Data Science techniques to decode over 525 CSV files (30 million data points per CSV file).	
High-Performance Computing , <i>Electrical & Computer Engineering Intern</i>	<i>June 2019 - August 2019</i>
• Created and managed a testbed to explore deployment of a new scheduler and resource managers, Slurm, for all HPC systems at MITRE.	
• Developed initial documentation for installation processes to be leverage by HPC systems admins for future use.	
Zebra Technologies — Lincoln, RI Custom Applications Group , <i>Software Engineering Intern</i>	<i>June 2018 - September 2018</i>
• Designed, coded, debugged, and tested software, software improvements, and software modifications to improve Zebra Technologies' internal ecosystem.	
• Tested designs and code under specified and/or reasonable conditions for various sponsors.	
University of Rhode Island College of Engineering — Kingston, RI Wearable Biosensing Lab , <i>Lab Research Assistant (sponsored by LSAMP)</i>	<i>March 2017 – May 2019</i>
• Researched with undergraduate and graduate assistants for Professor Mankodiya (Wearable Body Sensor and Internet of Things Expert).	
• Worked with Internet of Things (IoT) devices and various programming languages.	
General Dynamics Electric Boat – Groton, CT Information Technology , <i>Student Technical Assistant (Security Clearance: Secret)</i>	<i>May 2017 - August 2017</i>
• Provided and supported computer resources for Electric Boat by utilizing an in-house database.	
• Practiced IT Security and Compliance to ensure the security of Electric Boat.	
• Oversaw Resource Management and Coordination to improve company resource usage.	
University of Rhode Island — Kingston, RI College of the Environment and Life Sciences , <i>IT Assistant</i>	<i>September 2014 - March 2017</i> <i>August 2016 - March 2017</i>

- Setup and troubleshoot technology for the College of the Environment and Life Sciences staff and faculty.
- Answer various technology-related queries.

Information Technology Service, Help Desk Senior Consultant

October 2015 - March 2017

- Install, modify, and repair computer hardware and software for URI students.
- Respond to queries and concerns in-person or over the phone.

Mainfare Dining Hall, Dishwasher

September 2014 - May 2015

- Cleaned dishes and large pots, and dining hall at end of shift.
- Carried heavy-loads of items and stacked plates and cups accordingly.

Ama's Variety – Pawtucket, RI

June 2011 - August 2011

Store Clerk

- Assembled and organized displays on a daily basis.
- Issued receipts, refunds, credits or change due to customers.
- Greeted customers as they entered the store, assisted politely and efficiently to find various items in the store.

PROJECTS

Computer Network Systems: Software-Defined Network

January 2020 - February 2020

Designed a Software-Defined Network (SDN) using Python and threads. The SDN featured various clients and a server that ran route computations and kept track of network topology as clients and/or links failed.

Computer Organization: Web Controlled Dog Feeder

March 2018 - May 2018

Collaborated with a fellow Computer Engineer student to create Web Controlled Dog Feeder using a FPGA, Arduino, Force Sensitive Resistor, Continuous Rotation Servo, 3D printing, and lighttpd webserver.

Capstone Design: Smart PDU (sponsored by Acumentrics)

October 2017 - May 2018

Designed a Smart Power Distribution Unit with a team of engineers involving Raspberry Pi, Power Electronics, and LAMP Web Server.

NSF: Internet of Wearable E-Textiles for Telemedicine

September 2017 - May 2019

Collaborated with a team of engineers and textile designers to develop a family of Smart Wearables utilizing IoT and embedded systems to track data from Parkinson patients, while transmitting data for monitoring.

Wearable Internet of Things: UV Glasses

September 2017 - December 2017

Led a small team of engineers to construct a product with the functionality to receive UV light and transmit data to a user's smartphone using UV sensors, Arduino Uno, Bluetooth Low Energy, and Android Studio.

Internet of Things Research: Communication Organization

March 2017 - May 2017

Developed a method for tracking and distributing information using an Intel Edison and Arduino 101. The final product was able to send pseudo values through the Edison to a Computer using Node.js.

Electronic Design Automation: TRON Project

March 2017 - May 2017

Utilized Quartus to design a TRON Project on a DE1-SoC-MTL board, with four types of AIs that have different "personalities" using VHDL along with a full flow graph and full state diagram of the system.

LEADERSHIP EXPERIENCE

Eta Kappa Nu (HKN) , Honor Society of IEEE – B Chapter

March 2020 - Present

Member

- Attending weekly meeting and events.

URI International Engineering Program House

September 2017 - May 2018

Council Member

- Acted as Residential Advisor between two buildings on campus.
- Resolved minor to major conflicts between residents from various nations.

URI Computer Engineering Student Advisory Board

Spring 2016, 2017, 2018

Member

- Gave outlook and suggestions regarding URI's Computer Engineering Program with other selected Advisory Board members.

National Society of Black Engineers (NSBE)

September 2014 - Present

Purdue Chapter, Member

May 2020 - Present

- Attending bi-weekly meeting and events

URI Chapter, Senator

May 2017 - May 2018

- Made informed decisions on behalf of the URI NSBE Chapter during national meetings and conferences.

URI Chapter, Vice-President

May 2016 - May 2017

- Managed 11 Executive-Board members and act as President when needed.

URI Chapter, Secretary

May 2015 - May 2016

- Kept records and reports of 22 general and 24 executive board meeting

Theta Tau (ΘΤ), A Professional Engineering Fraternity – ΣΓ Chapter
Web Committee Chair

February 2016 - May 2019

August 2016 - April 2018

- Help design Sigma Gamma Chapter's Website visited by over 5,000 people per year.
- Collaborate with three other web committee members to finish programming assignments.

College Crusade of Rhode Island
Alumni

September 2015 - March 2017

June 2014 - Present

- Assist developmental program that provides mentorship for students going to college.
- Provide mentorship to younger members of the organization to improve leadership skills.

VOLUNTEER EXPERIENCE & STEM OUTREACH

MATHCOUNTS, Exam Proctor

February 2020

Dranesville Elementary School Out the Box Day, Volunteer

July 2019

RI Robot Block Party, Exhibitor

April 2019

All Saints Academy Outreach Paper Circuit Event, Presenter

March 2019

ELECOMP Capstone Design Program, Undergraduate Engineering Consultant

January 2019 - May 2019

Academic & Textile Industry Networking Fair, Exhibitor

February 2019

IEEE Internet of Things Journal, Peer Reviewer

December 2018 - Present

Intro to Electrical Engineering (ELE 101), Undergraduate Teacher Assistant

January 2018 - May 2018

Computer Science 4 Rhode Island (CS4RI), Presenter

December 2017

RIse with STEAM at Quonset Air National Guard Base, Exhibitor

May 2017

Habitat for Humanity Flagler Beach, Volunteer

March 2017

SMILE (Science & Math Investigative Learning Experiences), Volunteer

April 2016

URI College of Engineering, Volunteer

August 2015 - April 2018

HONORS & AWARDS

2019 Summer MITRE Hackaton, 3rd place

July 2019

MITRE's CORTeX CTF 2019, 1st place

July 2019

GEM Fellowship

May 2019

Dean's List

Fall 2017, Spring 2018, Spring 2019

Saint Elmo Brady Award for Outstanding Achievement in Science

April 2019

NSBE Fulfilling the Legacy Scholar

March 2019

URI AR/VR Immerse-A-Thon 2019, 1st Place

March 2019

LSAMP Scholarship

March 2017

NSBE Certificate of Appreciation (New England Zone)

October 2016

NSBE Outstanding Member of the Year (URI Chapter)

April 2016

Gilman Scholarship

January 2016

College Crusade Scholarship

June 2014

CERTIFICATION

Passed Fundamentals of Engineering Exam (FE)

January 9th, 2020