

NATHAN ANKOMAH-MENSAH

nankomah@purdue.edu ◇ nathanam@mitre.org ◇ +1 (401) 601-2522 ◇ <https://www.linkedin.com/in/nathanam>
<https://natemen96.github.io> ◇ <https://github.com/Natemen96> ◇ <https://orcid.org/0000-0003-0423-0439>

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.

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*February 2016 - May 2019**Web Committee Chair**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*September 2015 - March 2017**Alumni**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	<i>February 2020</i>
Dranesville Elementary School Out the Box Day, Volunteer	<i>July 2019</i>
RI Robot Block Party, Exhibitor	<i>April 2019</i>
All Saints Academy Outreach Paper Circuit Event, Presenter	<i>March 2019</i>
ELECOMP Capstone Design Program, Undergraduate Engineering Consultant	<i>January 2019 - May 2019</i>
Academic & Textile Industry Networking Fair, Exhibitor	<i>February 2019</i>
IEEE Internet of Things Journal, Peer Reviewer	<i>December 2018 - Present</i>
Intro to Electrical Engineering (ELE 101), Undergraduate Teacher Assistant	<i>January 2018 - May 2018</i>
Computer Science 4 Rhode Island (CS4RI), Presenter	<i>December 2017</i>
RIse with STEAM at Quonset Air National Guard Base, Exhibitor	<i>May 2017</i>
Habitat for Humanity Flagler Beach, Volunteer	<i>March 2017</i>
SMILE (Science & Math Investigative Learning Experiences), Volunteer	<i>April 2016</i>
URI College of Engineering, Volunteer	<i>August 2015 - April 2018</i>

HONORS & AWARDS

2019 Summer MITRE Hackaton, 3rd place	<i>July 2019</i>
MITRE's CORTeX CTF 2019, 1st place	<i>July 2019</i>
GEM Fellowship	<i>May 2019</i>
Dean's List	<i>Fall 2017, Spring 2018, Spring 2019</i>
Saint Elmo Brady Award for Outstanding Achievement in Science	<i>April 2019</i>
NSBE Fulfilling the Legacy Scholar	<i>March 2019</i>
URI AR/VR Immerse-A-Thon 2019, 1st Place	<i>March 2019</i>
LSAMP Scholarship	<i>March 2017</i>
NSBE Certificate of Appreciation (New England Zone)	<i>October 2016</i>
NSBE Outstanding Member of the Year (URI Chapter)	<i>April 2016</i>
Gilman Scholarship	<i>January 2016</i>
College Crusade Scholarship	<i>June 2014</i>

CERTIFICATION

Passed Fundamentals of Engineering Exam (FE)	<i>January 9th, 2020</i>
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