

Simeon Babatunde

Central, SC 29630, USA
✉ sbabatu@clemson.edu
🌐 <http://simeonbabatunde.com>

Research Interests

My research lies at the intersection of **Embedded Networked Sensor Systems**, **Intermittent Computing** and **Embedded Machine Learning**. It primarily focuses on exploring new low-power wireless network solutions that are resilient to frequent and erratic power failures; common in emerging batteryless systems that operate entirely on harvested energy.

Interest Areas: Edge & Intermittent Computing, Embedded Systems & IoT, Wireless Sensor Networks, Embedded AI, Data Science and Engineering.

Education

- May 2023 **Clemson University**, Clemson, SC, United States
Ph.D. in Computer Science
Advisor: Dr. Jacob Sorber
- Dec 2019 **Clemson University**, Clemson, SC, United States
M.S. in Computer Science
Received the 2019 ACM-UPE Academic Achievement Award
- Sept 2014 **Obafemi Awolowo University**, Ile-Ife, Nigeria
B.S. in Computer Engineering
First Class Honors, 4.6/5.0 GPA

Experience

- 2018 – Now **Graduate Research Assistant**, PERSIST Research Lab, Clemson University, SC.
Focus: *Embedded Systems, Sensor Networks, Intermittent computing, Embedded AI.*
- Research new wireless communication protocols for emerging batteryless devices.
 - Coordinate the Embedded Networked Systems Seminar (CPSC 9500).
 - Mentor undergraduate research assistants.
- 2017 – 2018 **Graduate Teaching Assistant**, School of Computing, Clemson University, SC.
- Lead TA, CPSC 1071 (Programming Techniques and Methodology with C/C++).
 - Held lab. sessions, office hours, and managed a group of TA's.
- 2015 – 2017 **Data Engineer**, Venture Garden Group, Lagos, Nigeria.
Focus: *Data Science and Engineering, Business Intelligence.*

- Developed and managed a Data Lake built on Apache Hadoop ecosystem.
- Powered the data driven governance initiative through advanced analytics.
- Implemented a data consolidation strategy across strategic business units.

2014 – 2015 **Software Engineer**, Splashers Technologies, Lagos, Nigeria.

Focus: *Mobile Application Development, Data visualization.*

- Team lead, Mobile Application Development.
- Developed the first mobile solution for financial settlement among stakeholders within the electric power sector.

Publications

SenSys 2021 **Simeon Babatunde**, Arwa Alsubhi, Josiah Hester, Jacob Sorber. Greentooth: Robust and Energy Efficient Wireless Networking for Batteryless Devices. 19th ACM Conference on Embedded Networked Sensor Systems (SenSys 2021). (In Submission).

SenSys 2021 Arwa Alsubhi, **Simeon Babatunde**, Nicole Tobias, Jacob Sorber. Stash: Flexible Energy Storage for Intermittent Sensors. 19th ACM Conference on Embedded Networked Sensor Systems (SenSys 2021). (In Submission).

ENSsys 2020 Arwa Alsubhi, Nicole Tobias, **Simeon Babatunde**, Jacob Sorber. Can Crystal Oscillators Keep Time Without Power? 8th International Workshop on Energy Harvesting & Energy-Neutral Sensing Systems (ENSsys 2020).

ArXiv 2020 **Simeon Babatunde**, Nirnay Jain, Vishwas Power. Long Range Communication on Batteryless Devices. ArXiv Preprint 2020.

Awards and Honors

- 2021 Received the **Tapia 2021 Scholarship**.
- 2019 **UPE Academic Achievement Scholarship Award** for outstanding academic excellence in the Computing & Information Disciplines.
- 2015 **Outstanding Contribution to Consolidation Goals Award** for highest performing team within Venture Garden Group (VGG).

Technical Skills

Programming Embedded C/C++, Python, R, Java.

Platforms MSP430, TensorFlow, Scikit-learn, Arduino, Autodesk Eagle, Contiki, SDR, Android, ELK stack (Elasticsearch-Logstash-Kibana), Apache Hadoop, OpenVINO, FastAPI.

Connectivity BLE, LoRa, Zigbee, Sub-1GHz wireless solutions, Wi-Fi, 5G NR.

Hardware ARM Cortex-M, TI MSP430xx, Raspberry Pi, PCB design and assembly.

Services

- 2021 - 2022 **Vice President**, Clemson University School of Computing Graduate Student Association (SoCGSA).
- 2021 Clemson University Graduate Student Government **Senator** for the Computer Science program. A member of the Research Initiatives Committee.
- 2020 Volunteered as a mentor for the **Black in AI** graduate mentoring program.
- 2019 Participated in the outreach program—robotics and coding camp, for elementary school students at the Forest Acres Elementary, Easley.

Talks, Panels and Workshops

- 2020 Computing Research Association (CRA) Grad Cohort Workshop, Austin, TX.
- 2019 Presented a session on “**Tips for doing great research**” at the National Society of Blacks in Computing (NSBC) 2019 conference in Atlanta, Georgia.
- 2019 Computing Research Association (CRA) Grad Cohort Workshop, Hawaii.
- 2018 Cross-layer Computing Summer School: Circuits to System Workshop. Northwestern University, Evanston, IL
- 2017 Computing Research Association (CRA) Grad Cohort Workshop, San Diego, CA.

Teaching Experience

CPSC 1071: Programming Techniques and Methodology Lab using C/C++
Lead Teaching Assistant, Fall Semester 2018

CPSC 1111: Introduction to Computer Programming in C
Primary Lab Instructor, Summer 2018

CPSC 1071: Programming Techniques and Methodology Lab using C/C++
Lead Teaching Assistant, Spring Semester 2018

CPSC 1111: Elementary Computer Programming Lab
Teaching Assistant, Fall Semester 2017