Simeon Babatunde

⊙ Central, South Carolina 29630 📞 (864) 650-2697 @ sbabatu@clemson.edu
🌐 http://simeonbabatunde.com/

Objective

I am seeking a summer research internship position in Embedded Systems, Internet of Things, Wireless Sensor Networks, and Embedded AI.

Research Interests

My research focuses on creating new low-power wireless communication technologies that are resilient to frequent and erratic power failures; for emerging battery-free energy harvesting edge devices. I build and deploy new protocols, tools and hardware.

Interest areas: *- Wireless Sensor Networks - Mobile and Pervasive Computing - Embedded Systems & IoT - Intermittent Computing - Machine Learning for Low-power Microcontrollers.*

Technical Skills

- **Programming Languages**: Embedded C/C++, Python, R, Java.
- **Platforms and Tools**: TI MSP430, Arduino, Autodesk Eagle, Contiki, SDR, TensorFlow, Android, ELK stack (Elasticsearch-Logstash-Kibana), Apache Hadoop, Scikit-learn, OpenVINO, FastAPI.
- **Wireless Connectivity**: BLE, LoRa, Zigbee, Sub-1 GHz wireless solutions.
- **Hardware**: ARM Cortex-M, TI MSP430xx, Raspberry Pi, PCB design and assembly.

Recent Publications and Projects

- **Greentooth: Robust and Energy Efficient Wireless Networking for Batteryless Devices.**
  S. Babatunde, A. Alsubhi, J. Hester, J. Sorber. IPSN 2021 (In submission).
- **Poster: Can Crystal Oscillators Keep Time Without Power?**
  A. Alsubhi, N. Tobias, S. Babatunde, J. Sorber. ENSsys 2020.
- **Python 2.7.x Interpreter:** Implemented in C/C++ using Flex and Bison ([Github](#)).
- **UV Risk Detection and Prevention:** A wearable device built to inform users about current and cumulative UV exposure level ([Github](#)).
- **Private Object Detection in Images using YOLOv3:** A public and private object detection program built on YOLOv3 and darknet ([Github](#)).
- **Packet Sniffing and Spoofing:** A sniffer and spoofing program implemented using the pcap library and raw socket in C ([Github](#)).

Education

Clemson University, Clemson, SC   May 2022 (Expected)
Doctor of Philosophy, Computer Science

Clemson University, Clemson, SC   Dec. 2019
Master of Science, Computer Science
ACM-UPE 2019 Academic Achievement Award.

Obafemi Awolowo University, Ile-Ife, NG   Sep. 2014
Bachelor of Science, Computer Engineering
First Class Honors, 4.6/5.0 GPA. Second best CE student.

Professional Experience

PERSIST Research Lab, Clemson University, SC   Oct. 2018 – Present
Graduate Research Assistant
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.

School of Computing, Clemson University, SC   Aug. 2017 – Oct. 2018
Graduate Teaching Assistant

- Lead TA for CPSC 1071 (Programming Techniques and Methodology using C/C++).
- Held lab. sessions, office hours, and managed a group of TA's.
- Topics: Program design, implementation, testing and verification, data structure and algorithms.

Venture Garden Group, Lagos, Nigeria   Dec. 2015 – Jul. 2017
Data Engineer
Focus: Data Science and Engineering, Business Intelligence.

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

Splashers Technologies, Lagos, Nigeria   Aug. 2014 – Nov. 2015
Software Engineer & Data Analytics Researcher
Focus: Mobile Application Development, Data visualization.

- Team lead, Mobile Application Development.
- Awarded the "Outstanding Contribution to Consolidation Goals Award" October 2015.
- Developed the first mobile solution for financial settlement among power sector stakeholders.

Relevant Coursework

- Embedded Networked Systems   - Internetworking   - Design and Analysis of Algorithms
- Advanced Operating Systems   - Hands-On Machine Learning   - Translation of Programming
Languages   - Security in Emerging Computing and Networking Systems

Extracurricular Experience

- **National Society of Blacks in Computing:** Presented a session on "tips for doing great research" at the NSBC 2019 conference in Atlanta, Georgia.
- **Upsilon Pi Epsilon (CS Honor Society):** Participated in the outreach program (robotics and coding camp) for elementary students at the Forest Acres Elementary, Easley.
- **Association for Computing Machinery (ACM):** Student member (8949491).
- **Recreational Soccer and Ping-pong** - A great pastime to destress and keep the mind sharp.