John-Caleb (JC) Williams

745 Bradley Drive Unit B | Cookeville, TN 38501 | 931-581-1337 | jawilliams46@tntech.edu

PROFESSIONAL SUMMARY

- Recipient of the DoD SMART Scholarship, currently pursuing an M.S. in Electrical and Computer Engineering at Tennessee Technological University in Cookeville, TN with an upcoming transition to a Ph.D. candidate in Fall 2024. Also, currently a co-instructor of the ECE 1000 Explorations in ECE course, designing lectures and lab sessions around fundamental topics in ECE, such as Circuit Analysis, Digital Logic, and Electromagnetics.

EDUCATION

- **Tennessee Technological University, Cookeville, TN** — **Graduation Date: July 2024**
  Master of Science in Electrical and Computer Engineering — **GPA: 3.68/4.00**
  Electromagnetic Fields and Control Systems Concentration

- **Tennessee Technological University, Cookeville, TN** — **Graduation Date: Dec 2022**
  Bachelor of Science in Electrical Engineering (Mathematics Minor) — **GPA: 3.65/4.00**
  Electromagnetic Fields and Control Systems Concentration

- **Motlow State Community College, Tullahoma, TN** — **Graduation Date: May 2020**
  Associate of Science in Electrical Engineering (With Honors) — **GPA: 3.69/4.00**

RELEVANT COURSEWORK

- Electromagnetic Fields & Reinforcement Learning/Adaptive Control Systems
- Optoelectronic Engineering, Telecommunication Analysis, & Power Systems

WORK EXPERIENCE

- **Co-Instructor of ECE 1000 Undergraduate Course (Lecture and Lab)** — **December 2023 - Present**
  Designed lectures and lab sessions for freshman and transfer students covering topics such as Circuit Analysis, Digital Logic, Electromagnetics, and Control Theory. Designed workshops to promote 21st-century skills.

- **Science, Mathematics, and Research for Transformation (SMART)** — **August 2021 - Present**
  Scholar of the 2021 (B.S./M.S.) and 2024 (Ph.D.) cohorts, selected by the U.S. ARMY Space and Missile Defense Command (S.M.D.C.) Technical Center (Summer Intern at the Concepts Analysis Division).

- **Student Research Assistant, Tennessee Technological University** — **August 2021 - Present**
  Designed, simulated, and constructed a large-scale, room-wide Inductive Wireless Power Transfer (WPT) system, incorporating a custom-designed, high-power, high-frequency, full-bridge inverter.

- **NSF Research Experience for Undergraduates (REU), U.T. Chattanooga** — **May 2021 - September 2021**
  Produced computer vision Python scripts that taught micro-controllers to identify and analyze gauge readings in radiation harsh environments.

SKILLS

- MATLAB, Simulink, LabVIEW, LTSpice, KiCad, PLECS, & Ansys Maxwell
- Python, C++, C, HCS12 Assembly, Surface Mount Soldering, & 3D Printing

LEADERSHIP/ORGANIZATIONS

- **Vice-Chair of TTU Institute of Electrical & Electronics Engineers** — **August 2020 - December 2022**
  Oversaw informational meetings and fundraised for the chapter by assembling electrical and computer engineering course lab kits.

AWARDS/PUBLICATIONS

- **Science, Mathematics, and Research for Transformation (SMART)** — **August 2021 - Present**
  Scholar of the 2021 (B.S./M.S.) and 2024 (Ph.D.) cohorts, selected by the U.S. ARMY Space and Missile Defense Command (S.M.D.C.) Technical Center (Summer Intern at the Concepts Analysis Division).

- **IEEE Wireless Power Technology Conference & Expo (WPTCE) 2023** — **June 2023 - June 2023**
  Attended the WPTCE 2023 conference in San Diego, CA, and presented the paper titled, “Impedance Matching a Quarter Wave Resonator Receiver to Improve Efficiency in Unipolar Capacitive Wireless Power Transfer”