

Stanley Barnes

Knoxville, TN

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EDUCATION

The University of Tennessee Knoxville

Graduation May 2027

Bachelor of Science in Computer Engineering

GPA: 3.92

EXPERIENCE

Research and Teaching Assistant – EECS at UTK

May 2025 – Current

- Co-author, “Water is Life: Toward Open Infrastructures for Water Security Partnership,” *Conference on Human Factors in Computing Systems*, under review, August 2026
 - Modeled, prototyped, and tested 3D printed buoy to monitor water quality in streams and lakes
 - Implemented long range network (LoRa) to deploy buoy in remote areas and monitor wirelessly
 - Fabricated printed circuit boards capable of solar harvesting and battery management
- Co-author, “Teachable Things: Interactive Machine Learning on Tiny Devices,” *Symposium on User Interface Software and Technology*, under review, June 2026
 - Created custom microcontroller to run edge AI applications on memory budget of 3 MB
 - Simulated circuit designs to verify integrity and functionality of charging system
 - Refined driver code for camera, microphone, and LCD to adapt to system architecture
- Undergraduate Teaching Assistant for Human Computer Interaction and Computer System Interfaces
 - Lead weekly lab sessions to guide knowledge and understanding of microcontrollers
 - Provided feedback on assignments and projects to achieve learning outcomes

LEADERSHIP

Percussion Section Leader - Ravenwood Marching Band

August 2021 – May 2023

- Organized sub-section practices to improve quality of section rehearsals.
- Utilized cross section teamwork to efficiently move and load equipment
- Encouraged interpersonal connections to improve moral of section

PROJECTS

Senior Project - Sonoco Paint Can Defect

- Collaborated with a multi-disciplinary engineering team to solve manufacturing defects in product
- Designed an AI camera framework to monitor success rate of correctly made spray cans

FPGA Based Prosthetic Hand

- Developed logic using Verilog to control prosthetic hand with power efficiency under five watts

SKILLS

Hardware	KiCad, Cadence Virtuoso, Xilinx FPGA, ARM architecture, Fusion360
Software	LTspice, C, Verilog, Python, Office365, Linux, Windows
Lab Equipment	Oscilloscope, Waveform Generator, Logic Analyzer, Spectrum Analyzer