

EDUCATION

University of South Carolina

B.S.E in Computer Engineering; GPA: 4.00
B.S in Mathematics

Columbia, SC
Aug 2022 – Jun 2025 (Expected)

South Carolina Governor's School for Science and Mathematics

High School Diploma; GPA: 3.8

Hartsville, SC
Aug 2020 – May 2022

RESEARCH EXPERIENCE

USC SyReX Lab

Undergraduate Research Assistant

Columbia, SC
Feb 2023 – Present

- Currently working with Dr. Sanjib Sur in the Computer Science and Engineering Department
- Developing applications for millimeter-wave radar systems
- Creating a dataset for radar-based pedestrian detection using radar, LiDAR, and camera sensors
- Developed a demo to display radar-detected vital signs compared with a optical heart rate sensor
- Improved the data-transfer rates, which were a known issue by the manufacturer, by 5x

GSSM Autonomous Golf-Cart Project

Project Leader

Hartsville, SC
Jan 2022 – May 2022, Jan 2023 – Present

- Proposed and developed a new engineering-projects course with Dr. Elaine Parshall at GSSM
- Handled project funding, and raised over \$50,000
- Designed and built a PCB to control existing golf-cart hardware
- Implemented a LiDAR and camera-based object detection system

USC Cyberinfrastructure Lab

Undergraduate Research Assistant

Columbia, SC
Jun 2021 – Jul 2021

- Worked with Dr. Jorge Crichigno in the Integrated Information Technology Department
- Developed applications for P4 Programmable Switches
- Developed scripts to automate packet loss and throughput measurements

WORK EXPERIENCE

South Carolina Governor's School for Science and Mathematics

Interim Instructor

Hartsville, SC
Jan 2023

- Guest instructor for Dr. Elaine Parshall's course during the January Interim term
- Helped teach electronics engineering and embedded systems to current students
- Focused on applications of microcontrollers and sensors related to the golf-cart

AWARDS & ACHIEVEMENTS

USC Dean's List

Spring 2022

USC President's List

Fall 2022

USC Fall 2022 Code-A-Thon Runner-Up

Fall 2022

FTC Design Award

Spring 2021-2022

AP Scholar With Distinction

Spring 2020

FRC Design Award

Spring 2019

SKILLS

Programming: C, C++, Java, Python, MATLAB, R, MySQL, VHDL

Technologies: ROS, Intel Quartus, P4, mmWave Studio

Languages: English (Native), German (Elementary), Mandarin Chinese (Elementary)

RELEVANT COURSEWORK

Graduate-level coursework: CSCE-750 Analysis of Algorithms, CSCE-611 Advanced Digital Design, CSCE-513 Computer Architecture, CSCE-567 Visualization Tools

Other coursework: CSCE-313 Embedded Systems, CSCE-274 Robotics, CSC-340 Artificial Intelligence, CSC-311 Compilers, CSC-270 Database Design

ORGANIZATIONS

IEEE Eta Kappa Nu Honor Society (*IEEE HKN*)

American Institute of Aeronautics and Astronautics (*AIAA*)

Association for Computing Machinery (*ACM*)

Institute of Electrical and Electronics Engineers (*IEEE*)

Engineers Without Borders (*EWB*)

GRANTS

USC REU \$3.9k *Summer 2023*

USC REU \$2.7k *Spring 2023*

USC REU \$2.7k *Spring 2023*

USC Dean's Scholarship \$3k *Fall 2022*

USC Palmetto Fellows \$10k *Fall 2022 - Spring 2025*

CONFERENCES

USC CSE Research Symposium, *Columbia, SC* *Apr 14, 2023*

AIAA Region 2 Student Conference, *Knoxville, TN* *Mar 26-28, 2023*

GSSM 34th Annual Research Colloquium, *Hartsville, SC* *Nov 17, 2022*

GSSM 33rd Annual Research Colloquium, *Hartsville, SC* *Oct 22, 2021*

SPRI 2021 Poster Session, *Columbia, SC* *July 16, 2021*

POSTERS

P1 Joseph Telaak, Elie Kfoury, Jose Gomez, Ali AlSabeh, Shahrin Sharif, Jorge Crichigno, Designing an Arduino-based Rocket Flight Computer for Embedded Systems Education, SPRI 2021 Poster Session, July 2021

PUBLICATIONS

C1 Joseph Telaak, Wout De Backer, Designing an Arduino-based Rocket Flight Computer for Embedded Systems Education, AIAA Region 2 Student Conference, Mar 2023