

# Joseph Telaak

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## EDUCATION

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### University of South Carolina

Columbia, SC

- *BSE in Computer Engineering; (GPA: 4.0)*
- *BS in Mathematics; (GPA: 4.0)*

*Aug. 2022 – May 2025 (Exp)*

### South Carolina Governor's School for Science and Mathematics

Hartsville, SC

- *High School Diploma, Concentration in CS and Math; (GPA: 3.8)*

*Aug. 2020 - May 2022*

## EXPERIENCE

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### USC SyReX Lab

Columbia, SC

- *Undergraduate Researcher*

*Feb. 2023 - Present*

- Research Assistant under Dr. Sanjib Sur.
- Used mmWave radar to detect and track pedestrians on the road.
- Developed a system to compare vitals measured by a radar to those measured by a smartwatch.

### South Carolina Governor's School for Science and Mathematics

Hartsville, SC

- *Instructor*

*Jan. 2023*

- Guest instructor under Dr. Elaine Parshall for the January Interim.
- Taught embedded systems and electronics engineering concepts.
- Developed course for permanent placement in regular course-catalog.

### SCGSSM Autonomous Golf Cart Research

Hartsville, SC

- *Founder and Team Lead*

*Jan. 2022 - Feb. 2023*

- Managed funding (Over \$50k), part procurement, and technical design.
- Designed custom circuit boards to retrofit drive-by-wire control system for multiple models of golf carts.
- Wrote software to help the vehicle to avoid collisions, navigate autonomously, and offer teleoperated control.

### USC Cyberinfrastructure Lab

Columbia, SC

- *Research Assistant*

*Summer 2021*

- Worked under Dr. Jorge Crichigno.
- Created scripts to automate throughput and packet loss measurements.
- Developed applications for P4 programmable data-plane switches.

## VOLUNTEERING

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### FIRST Robotics

Columbia, SC

- *Various Volunteer Roles*

*Jan. 2022 - Present*

- Used several years of FIRST experience to mentor top-ranking FTC teams in SC.
- FLL Judge, FTC Robot Inspector, FRC Robot Inspector.

### SCGSSM SPARK!

Hartsville, SC

- *SPARK! Leader and Instructor*

*Aug. 2020 - May 2022*

- Led and taught an 8-week Python course to SC middle and high school students.
- Taught various courses in CS and robotics to SC middle and high school students.
- Appointed to FIRST SC Alumni Association board.

## SELECTED PROJECTS

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- **Self-Driving Golf Cart:** Retrofitted a golf cart with drive-by-wire controls to create an Advanced Driver Assistance System with autonomous capabilities.
- **Open-Source Rocket Flight Computer:** "Hackable" rocket flight computer designed to enable users to learn flight control and embedded systems.

## PROGRAMMING SKILLS

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- **Languages:** C/C++, Python, Java, P4, SQL, MIPS, x86, VHDL
- **Technologies:** ROS, Quartus, FPGA, STM32, MATLAB, Altium