

# Joseph Telaak

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## EDUCATION

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- **University of South Carolina** Columbia, SC  
*BSE in Computer Engineering, Minor in Math; 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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- **FIRST SC** Columbia, SC  
*Alumni Board* Feb. 2023 - Present
  - **Founding Board Member:** Helping start the alumni relations board for FIRST SC.
- **USC SyReX Lab** Columbia, SC  
*Undergraduate Researcher* Feb. 2023 - Present
  - **Milimeter Wave Communications:** Used mmwave to localize autonomous robots in all-weather conditions.
  - **Data Analysis:** Wrote MATLAB scripts to analyze data.
- **South Carolina Governor's School for Science and Mathematics** Hartsville, SC  
*Instructor* Jan. 2023
  - **Engineering Interim:** I helped students design and build various projects across a variety of disciplines.
  - **Engineering Projects Course:** Helped design the course for permanent placement within the course catalog.
- **SCGSSM Autonomous Golf Cart Research** Hartsville, SC  
*Founder and Team Lead* Jan. 2022 - Feb. 2023
  - **Project Managment:** Managed funding (Over \$50k), part procurement, and technical design.
  - **PCB Design:** Designed custom printed circuit boards to create a retrofit drive-by-wire control system for multiple models of golf carts.
  - **Algorithmic Design:** Wrote software to help the vehicle to avoid collisions, navigate autonomously, and offer teleoperated control.
- **USC Cyberinfrastructure Lab** Columbia, SC  
*Research Assistant* Summer 2021
  - **Network Testing:** Created scripts to automate throughput and packet loss measurements.
  - **P4:** Developed applications for P4 programmable data-plane switches.

## VOLUNTEERING

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- **FIRST Robotics** Columbia, SC  
*Various Volunteer Roles* Jan. 2022 - Present
  - **Mentor:** Used 4 years of FIRST experience to mentor top-ranking FTC teams in SC.
  - **Field Technical Assistant:** Managed field operations. Assisted students with robot troubleshooting.
- **SCGSSM SPARK!** Hartsville, SC  
*SPARK! Leader and Instructor* Aug. 2020 - May 2022
  - **Python Bootcamp:** Led and taught an 8-week Python course to SC middle and high school students.
  - **CS and Robotics:** Taught various courses in CS and robotics to SC middle and high school students.

## PROJECTS

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- **Self-Driving Golf Cart:** Retrofit golf cart with drive-by-wire controls to create an Advanced Driver Assistance System (ADAS) 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