


# Revanth Krishna Senthilkumaran

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West Lafayette, IN

**Permanent Resident of the USA**

## EDUCATION

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- **Purdue University** West Lafayette, IN
  - *Senior (4th Year), Bachelor of Science in Computer Engineering* *Aug 2021 - Dec 2024*
    - **Relevant Coursework:** Robotics, Reinforcement Learning, Microprocessor Systems & Interfacing, Data Structures, Comp. Architecture & Prototyping, OOP in C++, Probabilistic Methods, Python for Data Science

## EXPERIENCE

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- **AeroVironment** Moorpark, CA
  - *Software Engineering Intern* *Jun 2024 - Aug 2024*
    - **Internship:** Used quadcopter to implement autonomous software stack implemented on actively deployed fixed-wing UAV. Wrote a ROS2 PX4 bridge to send surveillance and mapping missions with BehaviorTree XMLs.
- **IDEAS Laboratory** West Lafayette, IN
  - *Undergraduate Research Assistant* *Sep 2023 - Present*
    - **ARTEMIS:** Used a Unitree Go1 quadrupedal robot to demonstrate that robots can assist first-responders with AI-based triage labeling trained using a medical center ED dataset. Paper submitted to IEEE-IROS 2024.
- **Bechtel Innovation Design Center** West Lafayette, IN
  - *Printing and Prototyping Peer Mentor* *Feb 2023 - Sep 2024*
    - **Makerspace:** Working with over 800 students every semester for projects with Metal and Non-metal Laser Cutting, 3D Printing: SLA, SLS, Carbon-fiber reinforced Onyx and resin, along with many personal projects.
- **Robotics, Perception and Manipulation Laboratory** Minneapolis, MN
  - *Undergraduate Research Assistant* *Summer 2023*
    - **Spot:** Developed new method of robust data collection using Boston Dynamics robot quadruped Spot for learning from demonstration on manipulation tasks with language commands for a vision-language model (Per-Act). Project involved Python, ROS, Simulation, Camera Transformations, Voxels, Boston Dynamics API.
- **SMART Laboratory** West Lafayette, IN
  - *Undergraduate Research Assistant* *Feb 2022 - Aug 2023*
    - **IEEE-IROS 2023:** Established novel method of using UAVs to inspect surfaces autonomously with learning from expert demonstration **PUBLISHED** to IEEE-IROS 2023: **UPPLIED**. Used WeBots simulation environment, ROS, VICON camera system to perform real world experiments.
    - **IEEE-TAC 2023:** MOCAS Dataset - mobile robot SMARTmBOT used to create a multimodal dataset with user studies for simultaneous cognitive workload assessment **PUBLISHED** to IEEE-TAC 2023 journal.
- **Air Force Research Laboratory** West Lafayette, IN
  - *Undergraduate Researcher* *Fall 2022 - Spring 2023*
    - **NXP HoverGames3 Team Lead:** Led a team of students to compete in the NXP HoverGames3 UAV sustainability contest. Coordinated with the Horticulture department and proposed a method of using a drone with an RGB-depth camera to investigate and inspect lettuce plants grown on vertical farming, including shades of green, water content and gas sensing.
    - **IEEE Autonomous UAV Challenge 2023:** Worked with rover-tracking team to use a UAV to compete in a challenge, where a UAV tracks and follows a ground rover through obstacles.
- **The Autonomous Robotics Club of Purdue** West Lafayette, IN
  - *President and Former Project Manager of Piano Hand* *Sep 2021 - Present*
    - **President:** Representing largest robotics club of Purdue: duties incl. councils for funding pitches, networking, club collaborations, workshops and seminars. Leading America's largest student-run robotics expo, RISE.
    - **Piano Hand:** Founded team to build an autonomous human-like hand that can read sheet music and play the piano. Setup ROS simulation, electronics, micro-controllers, hardware and algorithms teams.

## SKILLS

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**Languages:** Python, C++, C, Assembly, Verilog, SQL **Technologies:** Git, ROS, Linux, Docker, MATLAB