

OM BHATT

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PROFESSIONAL SUMMARY

Well-rounded student with strong academics and extracurricular experience. Passionate about robotics, particularly autonomous and intelligent systems. Seeking to expand engineering knowledge and experience to design, develop, and optimize mechatronic and robotic systems that advance automation and contribute to the betterment of society.

EDUCATION

Texas A&M University, *B.S - Mechatronics Engineering*
Minor: Embedded Systems

2024 - 2028
College Station, TX

Relevant Coursework: Calculus I–III, Differential Equations, Electricity & Magnetism, Engineering Mechanics, Metallic Materials, Circuit Analysis, Analog Electronics, Digital Electronics, Embedded Systems Development in C

Certifications: Introduction to Programming using Python

Extracurricular: T.U.R.T.L.E Robotics, TAMU Robomasters, IEEE TAMU, ASME TAMU, TAMU SASE

RELEVANT EXPERIENCE

R&D Robotics Engineer - Software Subteam

Sep 2025 - Present

T.U.R.T.L.E Robotics, Disaster Response Observation Network, Texas A&M University

College Station, TX

- Collaborating with [DRON](#) software subteam to research and implement ROS 2 Humble, PX4, and MAVROS frameworks in simulation environments to support a UAV swarm platform designed to assist first responders with visual data, mapping, and minimal human input during disaster response missions.

Hardware Team Member

Sep 2025 - Present

TAMU Robomasters, Texas A&M University

College Station, TX

- The [Sentry Robot](#) is a fully autonomous ground robot that moves and shoots at enemy robots using computer vision.
- Working on making the Sentry robot's design robust by utilizing OnShape CAD software
- Integrating key electronic components such as the NVIDIA Jetson Orin, LiDAR sensors, and cameras into the system for real-time perception and decision-making.

AEOP Summer Robotics Research Intern - LLMs for Safe Navigation REU

June 2025 - Aug 2025

Oden Institute - Center for Autonomy - Autonomous Systems Group, UT Austin

Austin, TX

- Interned at the Center for Autonomy as part of the AEOP LLMs for Safe Navigation REU under the guidance of [Dr. Ufuk Topcu](#), [Dr. Christian Ellis](#), and [PhD Student Rwik Rana](#)
- REU Project: Autonomous RC Rally Car for Jump and Drift Racing
- Architected a low-cost, 1/16 scale autonomous RC car using ROS2 to create a modular research platform for complex drift and jump navigation studies.
- Executed the complete electromechanical assembly by designing and soldering custom circuit boards to successfully power and integrate all components, including a Raspberry Pi 5/Jetson Nano and motor controllers.
- Programmed a robust low-level controller in a C++/ROS2 software stack to achieve precise Ackerman steering and throttle control for the vehicle.
- Successfully established full teleoperation capabilities and utilized the F1Tenth simulator to validate SLAM and control algorithms, preparing the platform for fully autonomous operation

Hatchling Team Member

T.U.R.T.L.E Robotics, Texas A&M University

Jan 2025 - Sep 2025

College Station, TX

- Won 2nd Place out of 30+ competing teams at the [2025 TURTLE Robotics Hatchling Competition](#)
- Designed and CADded key mechanical components in SolidWorks, including a forklift-style lift and gripper mechanism engineered for rapid block acquisition.
- Programmed an ESP32 and Arduino to control precise vehicle navigation and operate the multi-stage lift, enabling the robot to successfully retrieve and stack multiple blocks.
- Collaborating with the T.U.R.T.L.E Robotics team at Texas A&M University to enhance robotics expertise and tackle innovative challenges.

Student Researcher: Engineering Science Fairs - Dual-axis Solar Tracker

Science Fair Club, Vista Ridge High School

Sep 2022 - Mar 2024

Cedar Park, TX

- Engineered and developed "[EcoTrack](#)", a novel phototropic solar tracker inspired by nature, which uses thermo-responsive polymers to follow a light source. This design eliminates the need for electrical components in the tracking mechanism, creating a low-cost and low-maintenance solution for developing nations.
- Validated the system through experimentation, demonstrating that EcoTrack harnessed 87 percent more net energy than a traditional dual-axis tracker and 119 percent more than a fixed panel system under identical conditions.
- Achieved [first place](#) across Austin region at Austin Regional Science Fair and advanced to TXSEF State Fair
- Awarded a university tuition scholarship from [Jacobs Engineering](#) (\$2000) and [RICOH Sustainable Development Award](#)
- Elected to lead the role of an officer to help mentor other students on their projects and showcase our school's achievements to attract potential sponsors

Mechatronics Research Intern - WATonoBus: Autonomous Shuttle

Mechatronics Vehicle Systems Lab, University of Waterloo

Jun 2021 - Sep 2021

Waterloo, Canada

- Worked under the guidance of [Professor Amir Khajepour](#) on [MVS Lab](#)'s autonomous shuttle called [WATonoBus](#)
- Designed, fabricated, and programmed an [LED display module](#) that helped inform non-ego agents about the shuttle's intentions
- Awarded a scholarship from MVS Lab for demonstrated excellence
- Completed over 60+ hours of development

PUBLICATIONS

I. Wilhite, A. Briggs, C. Ambroziak, R. Kato, D. Wheaton, O. Bhatt, A. Talal, J. Shouba, C. Xu, O. Thomas, S. Ahn, "Disaster Response Observation Network (DRON)", TURTLE Robotics, Nov 21st, 2025 [Showcase Poster]

VOLUNTEERING AND LEADERSHIP

Design Review Officer

T.U.R.T.L.E Robotics, Project Branch, Texas A&M University

Jan 2026 - Present

College Station, TX

- Providing specialized input during design reviews and in the Q/A channel for the purpose of project progression and improvement.

Sponsorship Committee Member

T.U.R.T.L.E Robotics, External Branch, Texas A&M University

Sept 2025 - Jan 2026

College Station, TX

- Securing corporate sponsorships for TURTLE, a student-led organization, through a new Corporate Sponsor Outreach Initiative.

- Developing and executing outreach strategies to engage with companies and secure funding for workshops, social events, and advanced technical projects.

Texas Science and Engineering Fair Judge

College of Engineering, Texas A&M University

Mar 2025 - Present

College Station, TX

- Evaluate 20+ student research projects annually in the Energy: Sustainable Materials & Designs (2025) and Robotics & Intelligent Machines (2026) categories at the Texas Science and Engineering Fair [TXSEF](#), providing constructive feedback to the next generation of engineers.
- As part of Judge appreciation, George H.W. Bush Combat Development Complex gave TXSEF 2025 judges a tour of the Research Integration Center, which has state-of-the-art technology.

Student Council Member

Student Council Club, Vista Ridge High School

Sep 2022 - Sep 2024

Cedar Park, TX

- Contributed over 20 hours of community service by participating and helping organize events including school Christmas decorations, district events, conducting fundraisers, elementary school outreach events and more
- Donated items such as toys and food for charities

SKILLS

Hardware and Prototyping: ESP32, Arduino, RPi, STM32, LiDARs, Cameras, Soldering, PCB Design

Programming: Python, C#/, C++, ROS2, Linux, Shell (Bash/Zsh), L^AT_EX

Simulation and CAD: SolidWorks, Autodesk Inventor, Onshape, Bambu Studio, Eagle, Multisim, MATLAB

AWARDS

AEOP Summer Robotics Research REU Scholarship (\$6000), Oden Institute Jul 2025
Presented by Army Educational Outreach Program (AEOP) and Oden Institute at the University of Texas at Austin for my summer REU work.

2nd Place - 2025 TURTLE Robotics Hatchling Competition, T.U.R.T.L.E Robotics May 2025
Won 2nd Place at the 2025 TURTLE Robotics Hatchling Competition.

AP Scholar, College Board May 2024
Granted to students who receive scores of 3 or higher on three or more AP Exams.

Vista Ridge High School Scholar: “A” Honor Roll, Vista Ridge High School May 2024
Presented to students who have straight As at the end of the school year in all classes enrolled

2nd Place at Austin Regional Science Fair, Austin Energy Feb 2024
Placed second in the Energy: Sustainable Materials and Design category across the Austin metropolitan region

Vista Ridge High School Scholar: “A” Honor Roll, Vista Ridge High School May 2023
Presented to students who have straight As at the end of the school year in all classes enrolled

1st Place at Austin Regional Science Fair, Austin Energy Feb 2023
Placed first in the Energy: Sustainable Materials and Design category across the Austin metropolitan region

Jacobs Engineering Tuition Scholarship (\$2000), Jacobs Engineering Feb 2023
Presented to one selected finalist as a tuition scholarship that can be applied to the college of choice

RICOH Sustainable Development Award, RICOH Feb 2023
Presented to the student whose research has demonstrated the principles and technical innovations that offer the greatest potential for sustainable development

Summer Intern Scholarship, University of Waterloo Jun 2021
Presented by Professor Amir Khajepour to me for my work at Mechatronics Vehicle Systems Lab