

Mason Paprzycki

Innovative and committed engineering student with a wide body of technical and long term development experience. Strong values in teamwork and iterative design.

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EXPERIENCE

University of Colorado Colorado Springs, Colorado Springs CO — Undergraduate researcher

March 2025 - August 2025

Working on space elevator and carbon nanotube research. Team is working to publish a paper by the end of summer.

Formula SAE UCCS, Colorado Springs CO — Aerospace engineering team member

July 2024 - July 2025

Worked to develop nose-cone, side pods, and undertray for FSAE Car. Significantly helped plan the development process for the team's first airframe. Optimized different aeroflow surfaces for aerodynamic performance and ease of manufacturing. Utilized a design philosophy that successfully created an airframe that met the cars aerodynamic needs with minimum drag and minimum added vehicle weight.

Bearbotics , Monument CO— Programming Jr Lead FRC

May 2023 - May 2025

Assisted in the leadership of team software development. Led advanced control system optimization. Developed complex algorithmic processes. Trained new team members on software/control system strategies. Maintained a secure, intuitive, effective and fast paced object oriented software development environment. Managed system flow and control system mechanics. Designed and tested neural network and odometry based localization and dynamic targeting systems(excluding the neural net algorithms and odometry measurement) . Incorporated development processes with engineering subteams including (mechanical, electrical, strategy, and marketing). Diagnosed complex software errors.

Bearbotics, Monument CO — Programmer FTC->FRC

August 2021 - May 2023

Completed Software Development Tasks Using a wide body of programming languages(Java, Python, C++, C, Javascript, SQL, VScode, GIT) and other developmental tools. Including basic controls optimization, telemetry analyzation, basic object oriented software management, and

SKILLS

Problem Solving

Adaptability

Learning Agility

Self-Motivation

Analytics

Project Management
Principles

Cross Functional Team
Collaboration

Troubleshooting and
Maintaining engineering
systems

Optimization techniques

Aerodynamic analysis

Aerodynamic surface design

CAD(Simple Solidworks,
Fusion 360)

High Level Programming(Java,
Python)

Command-based
programming

Simulations

General Control theory
Application

Advanced Math(Calculus 1-3,
Differential Equations, Some
Linear Algebra, and Statistics)

Physics(Mechanical and
experimental)

Algorithms

algorithm development. Diagnosed basic software bugs.

EDUCATION

University Of Colorado at Boulder, B.S in Mechanical and Aerospace Engineering with a minor in Applied Mathematics

August 2025- May 2029

GPA: 3.8, Pursuing several programs since I entered college with advanced credits. So I'm on track to graduate with all of these in four years with a couple summer terms.

CU Boulder is a top aerospace engineering school in the nation ranking 5th for graduate Aerospace Engineering schools and 9th for best undergraduate Aerospace Engineering schools. They are ranked ~15th for Mechanical Engineering as well as Applied Mathematics.

Palmer Ridge High School, Monument CO— High School Diploma

August 2021 - May 2025

4.163 GPA top 9% of Class

Maintained highly rigorous coursework in STEM and the humanities. Most notable engineering classes (Calc 3, Diff Eq, AP Physics C Meche, and Senior Design)

PROJECTS

Optimized Projectile Targeting system — Bearbotics March 2024

Optimized an arm based projectile system by using a feed-forward-trapezoidal PID controller. Developed a two dimensional projectile targeting function by modeling two nonlinear discrete functions with a 3 dimensional matrix representing continuous quadratic systems. Final system designated an optimally approximated projectile launch angle and velocity. System achieved an overall ~90% accuracy even after facing pid and robot positional measurement error. It significantly outperformed alternative models based including regression and Newtonian based differential equations. The system was more practical than a recursion model because it achieved high performance with a small subset of experimental data. Did not investigate lagrangian or hamiltonian control solutions.

Senior Design Project Manager — Palmer Ridge

Finishing development for a remote+autonomous water monitoring system that cost significantly less than traditional solutions. Monitors standard environmental water pollutants from natural sources. Solar powered and deployed on a buoy. Team of 2 other students.

AI/Neural network

Applications

Automation

Robotics

Teamwork

Innovation

AWARDS

Engineering inspiration Award Bearbotics 2024 –

Demonstrated outstanding success in engineering innovation, applied theory, and work ethic.

Coaches Award Bearbotics 2023–

demonstrated exceptional work ethic, improvement in performance and commitment to my team.

Aerospace Rocket Design Project — *Palmer Ridge*

Used simulation software to design a high performing model rocket.

Reached an approximately measured apogee of 1300 ft in dynamic wind with exceptional stability. Designed and tested with condition tolerances..