

Flynn A. Cruse

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Objective: Seeking a creative workplace environment, that encourages innovation and fosters habitual learning.

EDUCATION

North Carolina State University

Bachelor of Science in Mechanical Engineering

Graduation: May 2022

Cumulative GPA: 3.32

Relevant Coursework: Space Exploration Systems, Software Development, Fluid Mechanics, Statics, Thermodynamics, Solid Mechanics, Dynamics, Environmental Ethics, Differential Equations

EXTRACURRICULAR ACTIVITIES

Design Team Lead, American Society for Mechanical Engineers

November 2020 – Present

- Collaborate with peers to design, manufacture, and assemble robots for national competitions.
- Design, solder, and assemble circuitry to control robotic movement under low-power constraints.

Ambassador, Entrepreneurship Program, NC State University

August 2020 – Present

- Develop website to promote the entrepreneurship program's activities and increase participation.
- Conceive, organize, and promote all events for the Entrepreneurship community at NCSU.

Team Lead, Engineering Career Fair, NC State University

January 2019 – Present

- Oversee team of 35+ students to organize a fair attended by 5000+ students and 150+ firms.
- Run statistical analysis on the performance of past fairs and create new measurement metrics.

Motorsports at NC State University – SAE BAJA

August 2019 – May 2020

- Designed components to precise specifications utilizing SOLIDWORKS.
- Manufactured, designed, assembled, and repaired brake systems of the vehicle.

PROJECTS & COMPETITIONS

In House Battle Bots Competition – First Place Overall

May 2021

- Ideated and CAD modeled robot in SOLIDWORKS then 3-D printed and assembled the design.
- Devised circuitry diagrams then wired and soldered entire circuit of the robot.
- Successfully diagnosed and repaired malfunctions during competition.
- Revised and improved designs to improve robot performance.

Heat Recycling Project in Desktop Computers

January 2021 – May 2021

- Designed, manufactured, tested, and revised a prototype ending in the successful recycling of 5% of the CPU heat energy, and 1% of the GPU heat energy into a battery pack for later use.
- Performed FEA, current-density, stress, and thermodynamic analyses on self-made CAD models (SOLIDWORKS & ANSYS) of the prototype. Resulting in design alterations, and increased efficiency.

Automatic Chicken Coop for First Engineering Design Day – Second Place Overall

November 2018

- Programmed an Arduino-Uno to control a stepper motor, interfacing with a photoresistor and two relays.
- Successfully automated the safe opening and closing of the coop on a day-night and weather cycle.

WORK EXPERIENCE

Manager, Northbrook Country Club, Raleigh, NC

April 2020 - August 2020

- Supervised 30+ employees, maintaining employee work schedules to ensure efficiency.
- Responsible for monitoring and adhering to real-time CDC updates during the COVID-19 pandemic.
- Was held accountable to the board of trustees. Reported on club performance at monthly board meetings and recommended any changes necessary to increase member satisfaction.

Manager, Meadowbrook Swim Club, Baltimore, MD

May 2018 – August 2019

- Oversaw 40+ employees, coordinated all aspects of a multi-faceted fitness center.
- Supervised two lifesaving rescues: a cardiopulmonary resuscitation and a severe cranial hemorrhage.

TECHNICAL SKILLS

Design: SOLIDWORKS, Fusion 360, Inventor, ANSYS & AutoDesk, Finite Element Analysis

Programming: Git: Software Version Control, Continuous Integration and Documentation. | Java: Test-Driven Development, Recursion-Based Programming. | MATLAB: 2D/3D Plots and Animations, Advanced Equation Manipulation, Data Analysis.

Scholarships & Achievements: Dr. David P Harris Scholar, Entrepreneurship Scholar, Dean's List