

Justin Pullman

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Education

Iowa State University – Bachelor of Science in Aerospace Engineering

Dec 2023

Experience

Mechatronics Intern, Caterpillar – Peoria, IL

June 2018 – Aug 2018

- Worked in tandem with industry experts to obtain knowledge about the creation of engine models
- Diagnosed and updated customers in service engine control modules

Robotics Coach, Peoria Academy – Peoria, IL

Aug 2019 – Dec 2019

- Instructed 4th – 8th graders in various engineering disciplines to teach the design process and fostered communication through hands-on activities
- Motivated critical thinking by rewarding innovative thinking to garner creative solutions from students
- Established a framework for future team success

Projects

UAV System Development

jpullman.com/sparro

- Led a 4 person team in the iterative design of a 3 drone, small U.A.V system using SolidWorks
- Designed and 3D printed components for prototyping
- Incorporated trade studies and product attributes into technical documents
- Presented technical material to clients
- Conducted design reviews using the round robin method

IGVC Robot

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- Designed a wheeled robot using Autodesk Inventor for the Intelligent Ground Vehicle Competition
- Compiled product renderings and bill of materials for prospective sponsors
- Developed a virtual robot with ROS (robot operating system) and Gazebo

Parking Guidance Prototype

jpullman.com/parkingsystem

- Developed a prototype that maximizes parking space use for improved user experience
- Implemented C programming to set up an Arduino Mega, incorporating ultrasonic sensors and LED control, and facilitating communication with a centralized database system
- Demonstrated prototype and presented the need for its implementation

Robotic Arm

jpullman.com/thor

- Modified and fabricated an open source 6-axis robotic arm using FDM 3D printing
- Assembled the robotic arm overcoming unforeseen clearance issues, and improving the design

Skills

CAD: SolidWorks, Autodesk Inventor, Ansys Mechanical

Electrical and Software: C, C++, Python, MATLAB, Arduino, Raspberry Pi

Manufacturing: 3D Printing, CNC Mill, Prototyping

Certifications

- CSWP - Professional Certification in SolidWorks