

Project SPLINTER (Smart Plank Inspection & Navigation for Timber Evaluation and Recognition) revolves around the application of machine vision for the precise identification of knots (and other imperfections) on wooden planks. At its core, this endeavor seeks to streamline and enhance the quality control process within the company we are working with. By utilizing cutting-edge technology, the project aims to alleviate the human-intensive inspection procedures and ensure the detection of knots and other imperfections with exceptional accuracy.

The unit itself is a mobile cart outfitted with an array of sophisticated components. This includes conveyor belts that facilitate the seamless movement of wooden planks through the inspection zone. Integrated sensors, cameras, and complimentary modules work in unison, meticulously analyzing the planks surface for knots. Those natural imperfections that can influence the planks structural integrity, aesthetic, and do not meet grading standards. By automating this knot detection process, the project not only accelerates production but also contributes to the consistent delivery of high-quality products and takes some of the mentally exhausting part of the process out of human hands saving thousands of dollars in production costs. This venture is exciting not only for its machine vision applications but also presents an interesting engineering challenge.

The team currently consists of James Lasso, Jordan Reed, and Dan Blanchette.

James is a non-traditional student at the University of Idaho, seeking a bachelor's degree in computer science while diving headfirst into the realm of robotics as a research assistant. He is passionate about automation and splits his time between parenting, academics, and tinkering on various side projects, and nurturing interests like gardening, fishkeeping and boardgames. Science is his compass, guiding both his studies and leisure pursuits.

Jordan Reed is in the last year of completing a bachelor's degree in computer science and mathematics. She lives in Priest River, ID and attends the Coeur d'Alene campus. She has three kids that keep her on her toes and give her the motivation to keep going. Jordan also enjoys various crafting hobbies when she can find spare time. Jordan spent the summer working with INBRE (IDeA Network of Biomedical Research Excellence) working on a program to automatically quantify cells in retinal imaging using computer vision techniques.

Dan Blanchette is a first-generation college student and a computer science major in his senior year at the University of Idaho Coeur d'Alene. His interests are in robotics and industrial automation. Prior to returning to school, he has a 14-year background in new steel manufacturing and processing. His draw to the computer science field is primarily due to my natural curiosity for how things work. Dan Has completed an Associate's of Science degree in Computer Science from North Idaho College, and beyond his bachelor's degree at the University of Idaho, plans on continuing into a Master's degree program.