



HCR New Hires

Ken Gardner – Director of Autonomous Development and Senior Software Engineer

Before joining HCR in January 2017, Ken was employed by Honeywell Aerospace as a software engineer specializing in inertial and GPS navigation. He has worked on fun and exciting projects such as:

- Gravity disturbance compensation
- Differential GPS systems, such as implementing the use of Satellite-Based Augmentation System (SBAS) in support of the FAA's NextGen program
- Real-Time Kinematic (RTK) GPS systems
- Relative navigation solutions for carrier-based aircraft landings
- Initial development for an autonomous golf course fairway mower
- Analysis of GPS and navigation sensor performance
- Leading investigations of customer-reported issues
- Manual debugging on target hardware using memory dumps, CPU registers and stack pointers

Ken has volunteered with FIRST Robotics Competition (FRC) team #79, Team Krunch, as a software mentor since 2004. His tasks with the team have included teaching design of robot software, interfaces with sensors and other robot hardware. He preaches the use of good software design and attempts to lay the foundation for software students to enter the exciting world of computer science.

Scott Jantz – Electrical Engineering Manager and Project Manager

27 years of experience in robotics, AI, software engineering, project management, cybersecurity, IC, and PCB design. As an undergraduate at the University of Florida, Scott worked on developing some of the first autonomous robots in the Machine Intelligence Lab. His work became the basis for the Intelligent Machine Design Laboratory, a graduate level class in robotics that Scott co-taught throughout graduate school. The focus of Scott's Master's thesis was on swarm robotics: building, programming, and studying large groups of robots. Out of this work came Mekatronix, a startup robotics company which supplied robots, robot kits, sensors, and programming tools for educational institutions, hobbyists, and researchers. From 2000-2010, Scott continued working on robots, assisted Mekatronix, and published papers on machine learning and robotic vision systems. Around the same time he began a career at NagraVision, where he worked on set top box security and middleware solutions for the cable, satellite, IP video, and terrestrial digital TV industries. Scott headed up the secure bootloader team at NagraVision, deploying secure bootloaders on millions of set top boxes which allowed those boxes to update their software securely over the air. The bootloader and middleware code that Scott helped develop over his 16 years at NagraVision is in use today in Spain, Germany, Brazil, Fiji, Chile, Peru, Curacao, Barbados, Caymen Islands, Mexico, Columbia, India, Hong Kong, and the United States.

Kevin Frazee – Senior Software Engineer and Lead of Embedded Software Systems

Over 20 years' experience in the software industry. Prior to joining Harvest CROO, Kevin worked as a senior software engineer with NagraVision, where he lead a team deploying set-top boxes to several latin american countries. During his tenure, he also worked extensively on secure bootloaders for set-



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top boxes. Kevin has extensive experience working with low-level/embedded systems, including device driver and kernel level work across multiple operating systems. Kevin holds a Bachelor of Science in Electrical Engineering and a Masters of Engineering in Computer Science, both from the University of Florida.

Alex Figueroa – Director of Machine Vision and Robot Electrical Engineer

Graduating from USF with a Bachelor's Degree in Electrical Engineering in 2017, Alex has worked with HCR developing the proprietary vision algorithms for 3 years doing strawberry machine vision detection and also developed the code that runs the robot designs. Alex's hobbies have included everything from iPhone phone repair to designing portable wireless sound systems for rock bands. He is a FIRST FRC alumni and helps with event production of FIRST regionals in Florida as a CSA with Ken Gardner.

Scott Scarpinato – Mechanical Design Systems Engineer

Graduating from USF with a Bachelor's Degree in Mechanical Engineering in 2017, Scott has worked with HCR developing the mechanical systems for 3 years doing everything from deploying field systems to helping with the CAD development of Harvester support systems. While at USF main Campus in Tampa, Scott was the in charge Teacher's Assistant for the CAD lab helping hundreds of future engineers learn 3D modeling. He has various certifications in the use of Solid Works. Scott is also a FIRST FRC alumni.

Erik Schroeder - Mechanical Design Robot Engineer

Graduate from Kettering University in Flint, Michigan in 2016 with a Bachelor of Science in Mechanical Engineering. Prior to joining HCR, and through the internships affiliated with Kettering University Erik worked on many projects including:

- Designing and building a mobile concrete slurry plant for drill rigs repairing the Herbert Hoover Dike along Lake Okeechobee in Florida
- The design and creation of an inexpensive 3D printed robotic prosthetic hand

Erik has been a volunteer and mentor with FIRST Robotics Competition Team 79 Krunch since 2011 assisting High School students with the design of their competition robot as well as its manufacturing.