

# Kiva Mccracken

📍 Orlando, Florida, USA    [in](#) kivamccr    [🔗](#) kivamccr.xyz

## 🎓 Education

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### **B.S. Optics & Photonics**, *University of Central Florida*

2026 Grad | Orlando, FL

Currently working towards a Bachelor's degree in Optics & Photonics.

### **AP Scholar Grad**, *Suncoast Polytechnical Highschool*

2021 | Sarasota, FL

Technical School, engineering program, robotics, CAD, etc...

### **Precision Machining**, *Suncoast Technical College*

2021 | Sarasota, FL

CAM, Hand Mill/Lathes, Haas CNC Mill/Lathes, & Welding. + Robotic Automation of Hass Mills.

### **Advanced Manufacturing**, *Suncoast Technical College*

2020 | Sarasota, FL

3D modeling and various additive/subtractive manufacturing methods: 3D printing (SLA/FDM), Plasma Cutting, Basic Lathe Skills, & Welding.

## 🏢 Experience & Organizations

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### **Research Assistant**, *Dr. Jaesung Lee*

2024 - present | Orlando, FL

Researching MEMS and Optical MEMS technology for advanced sensing applications.

### **In-training Camp Director**, *University of Central Florida*

2024 - present | Orlando, FL

### **Contractor**, *Roots Engineering Services*

2021 - present | Remote

Assembling, designing, and providing assets for education oriented robotic systems.

### **Job Shadow**, *NASA*

2024 | Kennedy Space Center

- Toured pad 39B, VAB, and launch control- learning about fuel & safety infrastructure, rocket assembly, and launch criteria.
- Visited the Prototype Development laboratory, and learned about the various manufacturing processes used in iterative design: mills, 3D printers, waterjets, wire EDM, orbital welding, etc...
- Visited the Cryogenic Test Laboratory, learning about liquid rocket fuel containment, and the challenges of vacuum and temperature control.

### **Job Shadow**, *Consolidated Electrical Distributors*

2024 | Orlando, FL

Learned about commercial & residential electrical equipment, inside/outside sales, manufacturer-distributor relations, and warehouse picking/logistics.

### **Certified Technician**, *Valvoline*

2023 - 2024 | Oviedo, FL

Customer service and various services changing automotive fluids.

### **Drone Pilot**, *University of Miami*

2019 | Peru

Drone survey & videography of Rio Chillon for torrent duck research.

## Volunteer & Senior Committee Member, Suncoast Science Center/Faulhaber Fab Lab

2016 - 2021 | Sarasota, FL

Led a team of volunteers in the day to day and in organizing, designing, building, and running the annual RC Car Race where volunteers teach kids how to use machinery and STEM skills to customize their car for a custom built track. Upon graduation received a lifetime membership award.

## Skills

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### 3D CAD/CAM

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Solidworks, & Fusion 360 (+CAM)

### Lasercutting

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Trotec Speedy M400, MC-1325, Epilog-3536, and various others.

### Vector Design

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Coreldraw & Inkscape

### 3D Rendering

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Blender & Solidworks Visualize

### CNC Mill

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Haas VF2 & TM1, +CAM

### 3D Printing

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Strasys F170, Form 2/3, Taz 5, Makerbot Sketch, etc... + tolerances

### Basic Shop Machinery

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Bandsaw, table saw, belt sander, drill press, hand tools, etc...

### LaTeX

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Documentation, , article formatting, formula sheets, etc...

### Hand Lathe/Mill

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Basic knowledge/use

## Notable Certificates

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- SolidWorks CSWA Academic
- SolidWorks CSWP Professional
- NIMS CNC Mill Operations
- MATLAB Onramp
- UCF EHS: Lab, Laser, Radiation, & X-ray.

## Publications

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[1] McCracken, K. G., Alza, L. A., McCracken, K. G., and Smith, M. M. (2012). Parasitism and joint incubation of upland goose (*Chloephaga picta*) nest by yellow-billed pintail (*Anas georgica*). *Ornitología Neotropical*, 23(2):287–290.

## Professional Projects

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### **Linear Circuits Formula Sheets** 2023 - 2024

Comprehensive formula sheet for Linear Circuits I & II, using LaTeX.

### **Robotic Surgery Training system** 2022 - 2023

Rendering & initial design of mock remote surgery system, for elementary level robotics education.

### **Semiconductor Manufacturing Training System** 2021 - 2023

Rendering, CAD, and design work for a collegiate level robotic training system in simulated semiconductor manufacturing.

### **Medallion Factory Training System** 2021 - 2023

Rendering, CAD, and design work for a collegiate level robotic factory training system.

### **Tradeshow Marketing Animation** 2022

A video compilation of existing ROOTS systems, for a tradeshow/future marketing needs.

### **Robotic Medical Training System** 2022 - 2024

A render for the proposal an elementary/middle school level robotic training system, the premise: robotic surgery.

### **Logistic Learning Factory** 2022 - 2023

A render for the proposal of a collegiate level robotic training system package, that replicated a factory logistic layout of incoming boxes, AMRs, and robotic gantries.

### **The Great Naval Orange Race** 2022

A GPS navigation based boat design, and an accompanying publication style research paper for the UCF annual Great Naval Orange Race.

### **Manatee County Build & Install** 2021

The build, and install of a elementary level robotic training system.

### **SkillsUSA Welded Sculpture** 2020

A welded butterfly and flower, made out of plasma cut steel. Won 2nd place in Regionals.

### **Rio Chillón Torrent Duck Project** 2019

Drone Piloting, videoing, and survey of the Chillón River in Peru.