

Kiva Mccracken

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🎓 Education

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

2026 Grad | Orlando, FL

- Interest/focus in Optical MEMS, metamaterials, and metasurfaces.
- In my fourth year, planning on a Masters in material science.

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

Research Assistant, *Dr. Jaesung Lee*

2024 - present | Orlando, FL

- In charge of all CAD & manufacturing for lab projects: custom vacuum chamber, optical kinematic systems, mounting for microscopy, etc...
- Learned and demonstrated cleanroom procedures and machines such as spin coaters, direct write lasers (DWL), cleaning of wafers, & principles of gowning.
- Designed semiconductor manufacturing protocol for Silicon Nitride membranes.

Camp Director, *University of Central Florida*

2024 - present | Orlando, FL

- Taught optical principles at a high school level with an emphasis on hands-on experience.
- Designed custom projects for students to learn concepts at a reduced cost, such as a camera lucida or \$10 telescope project.

Contractor, *Roots Engineering Services*

2021 - 2024 | Mixed Mode

- Helped design, manufacture, and assemble robotic systems.
- Developed curriculum materials to bridge the professional to student gap.
- Created marketing and pre-vis material for robotic systems to aid in design and sales.

Certified Technician, *Valvoline*

2023 - 2024 | Oviedo, FL

- Managed customer sentiment and presented services and discounts to encourage sales.
- Performed services: oil changes, transmission, differential, fuel system, etc...
- Consistently achieved or surpassed sales goals.

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

2016 - 2021 | Sarasota, FL

- Received Lifetime Membership award upon leaving the program.
- Senior Committee member leading fellow team members in the design, build, and management of the annual RC Car Race.
- Taught workshops and classes to contestants and volunteers alike on STEM skills and using lab machinery.

🏆 Notable Certificates

- SolidWorks CSWP Professional
- NIMS CNC Mill Operations

📖 Publications

- [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

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.

Tradeshaw Marketing Animation 2022
A video compilation of existing ROOTS systems, for a tradeshow/future marketing needs.

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.

For a full list of projects check out my website!