

# Thomas “Hunter” Blackburn

## Address:

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## Education:

Bachelor of Science in Mechanical Engineering - University of Central Florida (*Cum Laude*  
3.8 GPA)

Master of Science in Biomedical Engineering – University of Central Florida (*4.0 GPA*)

Achievements: Dean’s List Recipient Fall 2018, Dean’s List Recipient Spring 2019, President’s Honor Roll Recipient Fall 2019, Dean’s List Recipient Fall 2020, Dean’s List Recipient Spring 2021, Dean’s List Recipient Fall 2021, President’s Honor Roll Recipient Spring 2022, Florida Bright Futures Academic Scholar, Provost Scholarship Recipient

## Licenses and Certifications:

- Licensed Engineer Intern
- Licensed sUAS Aircraft Pilot
- Certified Bosch CDR Technician
- Certified Solidworks Associate

## Professional Experience:

Cummings Scientific, LLC, Tallahassee, FL July 2023 – Present

- Mathematical and physical modeling of automotive accidents.
- Created graphical representations of incident objects involved in accidental injury.
- Machined and built test apparatuses for use in incident analysis.
- Biomedical and mechanical analysis of the human body during an accident

## Relevant Projects:

UCF BPRE Clinical Immersion Program June – July 2021  
Smart Prosthetic with Integrated Cooling Elements (S.P.I.C.E.) Fall 2021 – Spring 2022  
The Effects of Anticipation of Physical Strain on Body Fall 2022  
Observing How Varying Data Processing Parameters and Classification Techniques Affects  
Classification Accuracy Spring 2023

Relevant Coursework:

Mechanics of Biostructures 1 and 2  
BME 5216C, BME5217C

Fall 2021, Spring 2022

- Developed an understanding of the human body from an engineering mechanics perspective to gain a stronger grasp of what it means to design a machine that operates in or on the human body.
- Gained a deep understanding of the body's anatomy and physiology on a macro and cellular level.
- Developed an even greater passion for biomedical engineering by gaining a deeper understanding of the field.
- Gained experience in a cadaveric lab setting.

Introduction to the Engineering Profession  
EGS 1006C

Fall 2018, Spring 2019

- Learned the basics of ethics in the engineering field.
- Developed the skills needed to work with others of varying attributes to be more effective as a team.
- Developed the skills necessary to create and manage a project timeline to maximize efficiency of a design project

Bioinstrumentation  
BME 6500C

Fall 2022

- Gained knowledge of the different physiological signals of the human body.
- Learned about the various sensors used to measure these signals.
- Discussed the pathologies and circumstances that would cause alternative measurement devices to be used over the conventional ones.

Methods in Neural-Machine Interfaces  
BME 6525

Spring 2023

- Learned about and compared the different features used to represent underlying information in an EEG or EMG signal.
- Gained an understanding of different methods of dimensionality reduction and signal separation.
- Studied the classifiers, regression models, and neural networks used to predict movement class and kinematics from EMG data.

Advanced Biomechanics  
BME 6215

Spring 2023

- Developed familiarity with numerous topics in the biomedical engineering field through reading and presenting recent studies.

- Developed strong oral presentation skills to present studies in a comprehensive and time effective manner.
- Gained understanding of lab kinematics and inverse dynamics and the programming skills necessary to work in the industry.

#### Traffic Crash Reconstruction

Fall 2024

- Studied derivation of most common formulas used in accident reconstruction
- Reconstructed real world accidents
- Developed skills including momentum analysis, skid mark analysis, and scale model vector analysis

#### Software Experience

- Proficient with Solidworks
- Proficient with Microsoft Word, PowerPoint, and Excel
- Proficient in MATLAB
- Proficient with Fusion360
- Intermediate usage of Abaqus, LabVIEW and 3ds Max