Joby Milo Anthony III
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EDUCATION

Liberty University, Lynchburg, VA
Doctor of Philosophy in Mechanical Engineering, August 2025 (pending)
Overall GPA: 3.66/4.0
Liberty University, Lynchburg, VA
Bachelor of Science in Mechanical Engineering (Minor in Mathematics), May 2020
Overall GPA: 3.2/4.0

https://jmanthony3.github.io

RELEVANT EXPERIENCE

Liberty University, Lynchburg, VA: *Research Fellow, Fall 2020 – Summer 2025*
- Aid in the grading and instruction of Engineering courses.
- Assist moderating Research Week events in the Jerry Falwell Library.
- Perform research for advisor related to or in the education of work for dissertation.

Liberty University, Lynchburg, VA: *Special Projects Intern, Summer 2020*
- Established renovation plan of diorama in Presidents' Office to 3D model and print campus structures.
- Scheduled LiDAR scanning of campus topography and ordered foam blocks for CNC-milling of campus.

Liberty University, Lynchburg, VA: *Laboratory Technician, Fall 2018 – Spring 2020*
- Served as 3D Printing technician to produce parts for students' projects.
- Created printer settings and material profiles for PLA, ABS, PVA, and TPU from 1,000+ hours of prints.

Virginia MetalFab, Appomattox, VA: *Engineering Intern, Summer 2019*
- Wrote VBA codes for SolidWorks macros to process large, sheet metal assemblies into drawings according to user-specified template to create flat-patterns, automatic dimensions, and PDF output.
- Designed and simulated custom tooling for 110-ton bend break to complete client's special request.

Freelance, VA: *Winter 2013 – Spring 2019*
- *Camera Operator*: Assembled and operated big-body and hand-held cameras for sports, concerts, and conferences.
- *Broadcast Engineer*: Engineered solutions during live broadcasts for **Liberty Flames Sports Network**.

Miles Architecture Group, Maitland, FL: *Intern, Summer 2016*
- Visited job sites to document and sketch building plans to meet ADA compliance.
- Fabricated bubble décor in office foyer. Showcased at: www.milesarch.com

PROJECTS

Implementing Bammann Plasticity and Other Internal State Variable Models as Julia Package for Intuitive Interaction with and Optimization of Model Constants with Sliders and Multi-Threading: BammannChiesaJohnsonPlasticity.jl *(to be published)*: Validates Coupled Discrete-Finite Element Model of PECSMAT for calibrating tensile data from simulation to experiment.

Verification of Coupled Discrete-Finite Element Model of PECSMAT Processed Metals *(to be published)*: Connect analytical codes to dynamically constructed Finite Element of PECSMAT processing in Abaqus verified by indent geometries.

Kinematic Modeling and Verification of Ideal Crank-Slider Mechanism for Repeated Single-Site Impacts *(to be published)*: Bridge phenomenology of crank-slider mechanism from high-speed footage to analytical codes with verification by kinetic energies.

Evaluating the performance of static mixers using the M-number: the case of the Koflo® mixer *(2023)*: Explores application of benefit-to-cost ratio-type, mathematical quantity relating the quality of mixing versus pressure drop in static mixers with validation against literature values for the same mixer type.

Formula SAE Team – Liberty Motorsports *(2018-2020)*: Simulation and Analysis sub-system Lead to produce computational and analytical support to design teams for various iterations of key parts: frame geometry, electrical accumulator container, and steering uprights.

M-Number, A Novel Mixing Parameter *(2019-2023)*: Faculty directed research to describe a static mixer's ability to provide a quality of mixing against the pressure drop.

Expandable Containment Unit *(2017)*: Student-led research endeavor to create a containment unit with rigid sides to increase in volume upon necessity. Upon implementation, volume was found to increase by 100%. Published research in undergraduate journal: https://digitalcommons.liberty.edu/montview/vol3/iss1/1/

RELEVANT COURSES

Finite Element Analysis	Integrated Computational Materials Engineering	
Partial Differential Equations	Continuum Mechanics	Damage & Fracture
Numerical Methods	Inelasticity	Advanced Mechanics of Materials
Materials Characterization	Mechanical Metallurgy	
Senior Design Capstone	Computer-Aided Engineering	Mechatronics
Dynamic Systems Modeling	Thermodynamics II	Fluid Dynamics

LEADERSHIP

Laboratory Technician Supervisor, Spring 2020
Served as supervisor to 3D Printing Team for Liberty University School of Engineering to interface wth faculty, order parts and materials, submit work orders, setup training workshops, and establish policy.

ADDITIONAL EXPERIENCE

Materials Research Society Winter 2022 Symposium on Integration of Experimentation and Modeling in Heterogeneous Microstructures by Precision Nanocrystallization (Winter 2022): *Integration of Experimentation and Modeling in Heterogeneous Microstructures by Precision Nanocrystallization* (presented remotely)
Liberty University School of Engineering Graduates Conference (Summer 2022): *Mathematically Modeling Non-Sinusoidal Kinematics of Linear SMAT Milling via Particle Tracking*
Research Week 2017: Member of winning oral presentation and received $250 cash prize and a displace case of expandable containment unit in Montview Student Union (Fall 2018).

SKILLS

Software: SolidWorks, SheetWorks, Abaqus, ANSYS, MATLAB, MakerBot, Cura, Adobe Illustrator

Machines: Zeiss Scanning Electron Microscope, JEOL Scanning Electron Microscope, KEYENCE confocal microscope, MakerBot Replicator 5th Gen, Ulitmaker S5, FORTUS 250 mc, Universal Laser PLS 4.75

Coding Experience: Julia, Python, LaTeX, MATLAB, C++, VBA

ACTIVITIES & HONORS

Engineering Summer Camp, Summers 2018 and 2019
Worked with faculty to create and teach course material for local junior high students for 1-week, project-oriented STEM intensive.