

## LAUREN A. TAPP

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### Education

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#### Georgia Institute of Technology | Atlanta, GA Bachelor of Science in Mechanical Engineering

June 2018 – Present  
Expected Graduation, May 2022

- GPA 3.92, Faculty Honors
- Minor in Computing and Devices
- Study Abroad: Georgia Institute of Technology – Lorraine | France
- Organizations: American Society of Mechanical Engineering, Alpha Xi Delta Sorority

August 2020 – December 2020

### Experience

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#### Undergraduate Research Assistant for Principal Investigator Dr. Zhoumin Zhang Georgia Institute of Technology, Atlanta, GA

January 2021 – May 2021

- Studied the different polarization states of thermal radiation emitted by various plasmonic metasurfaces under the mentorship of PhD student Chiyu Yang and Master's students Preston Bohm and Matthew Burg
- Presented and discussed findings with the principal investigator and research team weekly
- Created and managed Dr. Zhang's Nanoscale Thermal Radiation Laboratory website

#### SMART<sup>3</sup> Makerspaces VIP – 3D Printer Analysis Sub Team | Georgia Tech System to Manage and Automate Routine Tasks, Tools, and Training within Makerspaces

January 2021 – May 2021

- Developed python scripts that analyzed 3D printer data, such as vibration and current, and detected various print failures
- Applied research to makerspaces across Georgia Tech and published findings for other makerspaces

#### IDEA Laboratory Teacher Assistant | Georgia Tech ME 2110, Creative Decisions and Design

January 2020 – April 2020

- Supervised IDEA Laboratory Operations, and troubleshoot any issues with machinery
- Ensured that students followed safety procedures and lab protocol

### Projects

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#### Mohr's Circle MATLAB Application Project COE 3001, Deformable Bodies

Fall 2020

- Developed application building and designing skills, such as rotating elements, creating vector diagrams, and coding a user-friendly interface
- Calculated and displayed stress, strain, and angle relation in both tables, graphs, and rotating vectors for material analysis

#### Conceptual Design Project, Competition Robot ME 2110, Creative Decisions and Design

Fall 2019

*Designed and constructed a competition robot in a team-based setting, while meeting safety and cost requirements*

- Led in the design and coding of the robot using SolidWorks and NI LabVIEW
- Completed a full technical report, alternative designs, and subassembly CAD renderings, as well as engineering design tools such as the house of quality, specification list, function tree, and morphological chart
- Aided in the fabrication of the robot using the IDEA Lab and Invention Studio machinery

#### SOLIDWORKS Team Project

Fall 2018

#### ME 1770, Introduction to Engineering Graphics and Visualization

*Tasked with redesigning an SR-71 plane in a team-based environment, making sure to implement engineering graphics and visualization techniques in order to generate accurate specifications for product realization*

- Successfully delegated team roles based on individual strengths, managed deadlines and meetings, and presented final design
- Designed the landing gear and assembled the parts of the whole plane in SOLIDWORKS
- Developed final product concept by hand drafting sketches and creating technical drawings

### Skills

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Mechanical Engineering Design | SolidWorks and Creo | MATLAB and AutoCAD | C, Python, Linux, and Java | HTML and CSS |  
Mechatronics and LabView | CNC Mill, Lathe and Soldering | Vertical Bandsaw, Table saw, and Miter Saw | Milling Machine |  
Drill Press | 3D Printing | Laser Cutting and Inkscape | myRio and myDaq | Planning, Scheduling, and Prioritization | French  
(intermediate) | Design Proposals, Technical Reports, and Instruction Manuals | Technical Presentations

### Relevant Course Work

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Engineering Statics | ME 1770 (Engineering Graphics and Visualization) | ME 2016 (Computing Techniques) | ME 2110 (Creative Decisions and Design) | ME 2202 (Dynamics of Rigid Bodies) | ME 3017 (System Dynamics) | CS 1331 (Object-Oriented Programming) | CS 1371 (Computing for Engineers) | CS 2110 (Computer Organization & Programming) | ECE 3710 (Circuits & Electronics) | MSE 2001 (Principles and Applications of Engineering Materials) | ME 3322 (Thermodynamics) | ME 3340 (Fluid Mechanics) | COE 3001 (Mechanics of Deformable Bodies) | MATH 3670 (Statistics & Applications)