

# Austin Barrow

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Los Angeles, CA

## Education

### Georgia Institute of Technology

Atlanta, GA

MS, Computer Science, Specialization in Computing Systems

Expected Dec 2025

- Classes: Graduate Intro to Operating Systems, Computer Networks, Robotics: Artificial Intelligence Techniques

### Purdue University

West Lafayette, IN

BS, Aeronautical and Astronautical Engineering

May 2022

- Double Minor in Computer Science and Mathematics, Specialization in Propulsion
- Honors College Student and Presidential Scholarship Recipient

## Work Experience

### Ansys Government Initiatives (formerly, Analytical Graphics Inc.)

Exton, PA

Software Verification Engineer

June 2022 – Present

- Led testing for STK Graphics, Docker, Parallel Computing, and Linux across three major releases in C++ and Perl
- Automated Java, .NET, and Python Parallel Computing API release testing via regression suite Perl scripts
- Restructured offline C++ test scripts for compatibility with Github PySTK, a Python library for STK
- Programmed TKinter application in team of 5 to produce porkchop plots using STK Lamberdt Solver for Hackathon

### Roundtable Politics Inc., 501(c)(3)

West Lafayette, IN

Founding Board Member - Operations Director

Jan 2021 – Present

- Developed website and onboarding program to establish Roundtable Politics chapters at colleges across the country

### Purdue University Research

West Lafayette, IN

PETAL Researcher, Dr. Qiao Researcher

Sep 2019 – May 2022

- Designed proof of concept hypersonic solid fuel scramjet combustion engine utilizing atmospheric oxygen as oxidizer and Paraffin wax as fuel through the analysis of ignition temperature and development of roll waves off fuel grain
- Optimized heat transfer of cooling jacket mass flow in MATLAB, ensuring thermal equilibrium for Kulite Sensors
- Designed and manufactured measurement inserts for a supersonic wind tunnel with Fusion 360 and CNC mill

### University of Southern California

Los Angeles, CA

Undergraduate Researcher

May 2019 – Jan 2022

- Developed Java app to reduce registration analysis of scanned point clouds of 3D printed objects from 15min to 45s
- Programmed computationally efficient Java graphics to transform millions of 3D points via rotation and translation
- Presented a cost-benefit analysis of registration and nearest neighbor algorithms for nonrigid objects

### Air Force Research Laboratory

Wright Patterson AFB, OH

Aerospace Engineering Intern

May 2021 – Aug 2021

- Manufactured and tested emergency hydrazine detection using Arduino with Python real-time lumen visualization
- Developed LabVIEW DAQ system with NI thermocouples offering precise control and visualization of thermal variations across sample bed to analyze coating erosion at specific temperature ranges and airspeeds

## Projects

### HackOMSCS — Hacker Experience Lead

Oct 2023 – Present

- Designed website in Next.JS for first hackathon in Georgia Tech OMSCS program

### Spotisort

July 2023 – Present

- Developed SwiftUI app that sorts music library into playlists based on API categories and customizable thresholds

### Spacecraft Senior Design — Lead Propulsion Engineer

Jan 2022 – May 2022

- Managed propulsion team to complete Pre-Phase A NASA proposal for a theoretical interstellar probe mission
- Optimized trajectory determination and sizing for launch vehicle and kick stages in MATLAB for Pareto analysis

## Awards And Recognition

STK Level 3 Grand Master Certification, ODTK Certification, TETK Certification

July 2022

Computer Science Undergraduate Teaching Assistant

2021, 2022

FAA Smart Airport Challenge 1st Place Winner

Dec 2020

CRADLE Analog Astronaut

Aug 2020

AIAA International Astronautical Congress Diversity Scholar

Aug 2019

## Skills and Interests

**Languages:** C, C++, Python, Java, Swift, Javascript, MATLAB, Perl, LabVIEW, LaTeX

**Tools:** Linux, Next.JS, React, Docker, Arduino, Solidworks, NI-DAQ, Git/Github, Jira, Perforce

**Interests:** Kerbal Space Program, Ansys Pride ERG Social Lead, Advent of Code, Piano, Alto Sax, Biking, Vinyl