Austin Barrow

Los Angeles, CA

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Education

Georgia Institute of Technology
Atlanta, GA

MS, Computer Science, Specialization in Computational Perception and Robotics — 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
- Created automated testing suite for Java, .NET, and Python Parallel Computing APIs via regression Perl scripts
- Restructured offline C++ test scripts for compatibility with Github PySTK, a Python library for STK

Purdue University Research
West Lafayette, IN

PETAL Researcher, Dr. Qiao Researcher — Sep 2019 – May 2022
- Optimized heat transfer of cooling jacket mass flow in MATLAB, ensuring thermal equilibrium for Kulite Sensors
- 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

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
- Conducted a cost-benefit analysis of registration and nearest neighbor algorithms performance 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 for 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 Next.JS website, secured AWS sponsorship, and managed event logistics for first OMSCS hackathon

Ansys Hackathon
2023, 2024
- 2024: Developed Python script leveraging CNN trained on STK image dataset created through participant ranking of images via an ASP.NET web app, resulting in automated movie generation based on visual aesthetics
- 2023: Programmed TKinter application to produce porkchop plots using STK Lamberdt Solver

Spotisort
July 2023
- Crafted Python script that sorts large music libraries into playlists based on API categories and custom 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*
AIAA International Astronautical Congress Diversity Scholar	*Aug 2019*

Skills and Interests

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

Tools: Linux, JUnit, NUnit, Next.JS, React, Docker, Arduino, NI-DAQ, Git, Jira, Perforce, Solidworks

Interests: Kerbal Space Program, Ansys Pride ERG, Ansys AI/ML SIG, Advent of Code, Piano, Sax, Biking, Vinyl