

Dalan C. Loudermilk

☎ +1 (828) 557 2833 • ✉ dalan@umd.edu
🌐 <https://www.linkedin.com/in/dalanloudermilk/>

Education

- ▶ **Ph.D., Aerospace Engineering, In Progress**
University of Maryland College Park
- ▶ **M.S., Aerospace Engineering, December 2024**
University of Maryland College Park
- ▶ **B.S.E., Concentration in Mechatronics, May 2020**
With Distinction
Jointly Issued by North Carolina State University
and University of North Carolina Asheville; Asheville, NC
- ▶ **B.A., Mathematics, Concentration in Applied Mathematics, May 2020**
With Distinction
University of North Carolina Asheville; Asheville, NC

Employment

- ▶ **National Aeronautics and Space Administration - Langley Research Center**
Autonomous Integrated Systems Research Branch
Student Trainee (Engineering), Pathways Program, June 2022 – Present
- ▶ **University of Maryland College Park**
Department of Aerospace Engineering
Teaching Assistant, August 2024 – Present
- ▶ **University of Maryland College Park**
Motion and Teaming Laboratory
Graduate Research Assistant, August 2020 – June 2022
- ▶ **University of North Carolina Asheville**
Teaching Assistant, August 2017 – December 2019
Undergraduate Research Assistant, May 2019 – August 2019

Published Research

Conference Publications

- ▶ *Assembly Sequence Optimization for Space Structures* *AIAA ASCEND*
Dalan C. Loudermilk | Dr. John R. Cooper | Dr. Michael Otte *2024*

Unpublished Research

Graduate Research

- ▶ *Autonomous Structural Assembly Sequencing* June 2022 - Present
Dr. Michael Otte, UMD - College Park | Dr. John Cooper, NASA Langley
- ▶ *Adaptive Step Size for Path Planning Using RRT* and MPC* June 2022 - December 2022
Dr. John Cooper, NASA Langley
- ▶ *Multi-Agent Structural Assembly with Guaranteed Redundancy (and Quick Re-Planning) White Paper* August 2021 - May 2022
Dr. Michael Otte, UMD - College Park | Dr. William Doggett, NASA Langley | Funded by National Institute of Aerospace
- ▶ *Analysis of the Effects of Hacking on Algorithmic Behavior of Kilobot Swarms* August 2020 - May 2021
UMD - College Park | Dr. Michael Otte | Funded by Northrop Grummond

Undergraduate Research

- ▶ *Experimental Validation of Control and Tracking Algorithms for Landing a Drone on a Moving Platform* August 2019 - March 2020
Dr. Mahmut Reyhanoglu, UNC-Asheville
- ▶ *Experimental Validation of a Photovoltaic Crawler Prototype* May 2019 - December 2019
Dr. Mahmut Reyhanoglu, UNC-Asheville
- ▶ *Application of Phase Change Materials to Increase Efficiency of Body Heat Harvesting with Thermoelectric Generators* May 2018 - August 2018
Dr. Daryoosh Vashaee, ASSIST REU NCSU

Projects

Undergraduate Projects

- ▶ *2020 NASA Lunabotics Robotic Mining Competition* January 2019 - May 2020
Team Lead
- ▶ *2018 IEEE SoutheastCon Hardware Competition* January 2018 - May 2018
Team Member

Presentations

Presentations (Invited)

- ▶ *Space Mission Challenges for Information Technology / Space Computing Conference (SMC-IT/SCC) 2023* July 2023
Trustworthiness of a Surrogate Model for Assembly Sequencing of Space Structures
- ▶ *Mathematical Association of America NC State Dinner* September 2019

Workshops

- ▶ SmallSat Mission Design School *July 2022*
Cornell University
- ▶ TABIP Summer Science Academy (Aerospace Engineering) *July 2019*
Yunus Emre Institute
- ▶ Clearpath Robotics ROS Workshop *May 2019*
Clemson Edisto Research & Education Center

Grants, Fellowships, & Awards

Fellowships

- ▶ NSF Nanosystems Engineering Research Center for Advance Self-Powered Systems of Integrated Sensors and Technologies (ASSIST) *Summer 2018*
Research Experience for Undergraduates (REU) at NCSU

Grants

- ▶ UNCA Undergraduate Research Grant *Summer 2019*

Awards

- ▶ Mechatronics Outstanding Professionalism Award *May 2020*
- ▶ Jane Oliver Swafford Mathematics Scholarship *2019-2020*
- ▶ SCUDEM Modeling Challenge (Meritorious Achievement) *Fall 2019*