## Caleb Ashmore Adams Space Systems, Computation, Science

Last update on March 20, 2023

CalebAshmoreAdams@gmail.com www.CalebAdams.space

my github 🕠 my stackoverflow 🖹

2018

ATHENS, GA

HOUSTON, TX

August 14 – April 15

August '14 – April '15

April 14 – August 14

**Education** 

University of Georgia ATHENS, GA

Master's of Science in Computer Science **GPA:** 3.91 ( $\pm$  scale), 4.0 (standard) 2020

University of Georgia ATHENS, GA

Bachelor's of Science in Computer Science

Experience

University of Georgia, Small Satellite Research Laboratory (SSRL)

Thesis: High Performance Computation with Small Satellites and

**Small Satellite Swarms for 3D Reconstruction** January '18 – May 2020

I design small satellite computer systems and software for computer vision and 3D reconstrution.

Co-Founder, Program Manager, Systems Engineer *January* 16 – May 2020

Co-wrote proposals and Co-founded the SSRL. I run day to day operations and research.

Multiview Onboard Computational Imager (MOCI) Satellite January '16 – present

A 6U cube satellite based using Nvidia TX2i GPU/SoC to Generate 3D digital surface models.

Spectral Ocean Color (SPOC) Satellite

January '16 – present

A 3U cube satellite with a custom hyperspectral sensor to analyze the coastal ecosystems of Georgia.

NASA, National Aeronautics and Space Administration

**Core Flight Software Programmer** April 15 – August 15

I helped audio telemetry and communication for the Orion spacecraft.

**Human Systems Integration** April 15 – August 15

Helped develop future Graphic User Interfaces (GUIs) used for training astronauts.

Hodgson Glass Research Laboratory ATHENS, GA

Google Glass Development

Helped develop first musical score viewing application for Google Glass

**Smart Podium Development** 

Developed smart podium for the band director to synchronized music editing and notation.

The Home Depot Innovation Center Atlanta, GA

Google Glass Research & Development Developed AR applications for improved store support services.

Virtual Reality Research & Development April '14 - August '14

Developed a VR to display heat maps of data over store shelves.

Research

Thesis:  $\square$ ; Conference Paper:  $\square$ ; Conference Presentation:  $\square$ ; Conference Poster:  $\square$ 

High Performance Computation with Small Satellites and Small Satellite Swarms for 3D Reconstruction

Master's Thesis - The University of Georgia

Athens GA, 2020

Committee: Dr. Ramviyas Parasuraman, Dr. David Cotten, Dr. Michael E. Cot-Caleb Adams, terell, Dr. WenZhan Song

☐ The Spectral Ocean Color Imager (SPOC) - An Adjustable Multispectral Imager

The AIAA/Utah State Small Satellite Conference - Small Sat

Logan UT, 2019

David L Cotten, Nicholas Neel, Deepak Mishra, Marguerite Madden, Caleb Adams, Susanne Ullrich, Adrian Burd, Malcolm Adams, Kaitlyn Summey, Casper Versteeg, Jackson Parker, Fred Beyette

☐ Towards an Integrated GPU Accelerated SoC as a Flight Computer for Small Satellites

**IEEE Aerospace Conference** Big Sky MT, 2019

Caleb Adams, Allen Spain, Jackson Parker, Matthew Hevert, James Roach, David Cotten

Selected Software Demonstrations from the Multiview Onboard Computation Space Innovations Symposium Caleb Adams, Jackson Parker	nal Imager Satellite Atlanta GA, 2018
A Near Real Time Space Based Computer Vision System for Accurate Terrain The AIAA/Utah State Small Satellite Conference - Small Sat Caleb Adams, David L. Cotten	Mapping Logan UT, 2018
The Feasibility of Structure from Motion over Planetary Bodies with Small S The AIAA/Utah State Small Satellite Conference - Small Sat Caleb Adams, Nicholas (Hollis) Neel, David Cotten	atellites Logan UT, 2017
☐ (SP)ectral (O)cean (C)olor Satellite, ▶ Video Link  Cubesat Developers Conference - Cal Poly  Caleb Adams, David Cotten, Deepak Mishra, Nicholas (Hollis) Neel, Graham G	<i>Luis Obispo CA,</i> 2017 rable, Khoa Ngo
This is an incomplete list, you can visit my website, view my CV, or click the links above, for more detail	ils on my research
Grants Funded	
UNP NS-9, Phase B	2010
University Nanosatellite Program, Nano-Sat 9 Phase B-\$600,000	2018
Georgia Space Grant Consortium  Accelerated Space Computers – \$20,000	2018
NASA USIP The NASA Undergraduate Student Instrument Project – \$200,000	2016
UNP NS-9, Phase A	2010
University Nanosatellite Program, Nano-Sat 9 Phase A – \$180,000	2016
Grants listed above have me listed as an author, significant contributor, and/or essential per	rsonnel.
Awards, Honors, & Fellowships	
Georgia Space Grant Consortium	
Fellowship	2018
UNP Phase B	
Phase A Winner	2018
TEDx UGA TEDx UGA Student Idea Showcase	2016
HackGT	2010
Top 8	2016
NASA Johnson EV3	
Team Excellence	2015
VT Hacks Winner	2015
Leadership Experience	
UGA Small Satellite Research Laboratory  Co-Founder, Program Manager	Athens, GA 2016 – 2020
Space Innovations Symposium	Atlanta, GA
Session Chair, Organizer  Head TA - CS 1302 Software Programming	2019 Athens, GA
Head TA Hyve Robotics and AstroVisual	2018 – 2020 Атнеns, GA
Co-Founder	2015 – 2018
UGA Hacks Co-Founder	Athens, GA 2015 – 2016
UGA Redcoat Band Section Leader	Athens, GA 2014 – 2015