Customers

CCAR
Prof. Penny Axelrad
John Gaebler

VANTAGE

Adviser

Prof. Marcus Holzinger

Management

Safety	Finance	PM	S/W Development	Systems Engineer	Integration and Test
Richard Moon	Justin Fay	Nick Renninger	Dylan Bossie	Marshall Herr	Zach Talpas

Technical Leads

Software	Sensors	Manufacturing	Electronics	Structures
Josh Kirby	Sean Downs	Lara Lufkin	Jerry Wang	Aaron Aboaf
Richard Moon Dylan Bossie Nick Renninger Justin Fay Sean Downs	Justin Fay	Aaron Aboaf Jerry Wang	Lara Lufkin	Zach Talpas

Aaron Aboaf | Structures Lead | Hardware Cloth Lead
Hardware, Testing Team

Current Technical Role: **Hardware Integration & Test**

- Senior at CU Boulder majoring in Aerospace Engineering
- Recipient of the 2018 AIAA 20 Twenties Award
- **Two years** of experience in CubeSat design:
    - Lead Structures Engineer for the University of Colorado Earth Escape Explorer (CUE3) and MAXWELL Cube Satellites
    - CUE3 team took second place in the national NASA CubeQuest Challenge and secured a launch spot on the inaugural flight of the Space Launch System.
    - MAXWELL selected for flight by UNP for the 9th competition cycle.
- Experience in Integration and Test from internships at both Raytheon Missile Systems and most recently at Ball Aerospace in Boulder.

Nicholas Renninger | Project Manager | UML Lead
Software, Simulation Team

Current Technical Role: Hardware / Simulation SW Developer

- Senior at CU Boulder majoring in Aerospace Engineering
    - Applied Math and CS minors
- **1 year internship** working as an R&D blade design aerodynamics engineering intern at Siemens:
    - Aerodynamic software tool developer, in the process of re-architecturing and designing a major SW tool
    - Mentored by PM and software development / architecture experts
- **(2 years)** Developed test and automation software for LASP in support of sounding rocket program.

Marshall Herr | Systems Engineer | Gantt Chart Formatting Lead
Testing Team

Current Technical Role: **Coding and Algorithms**

- Senior at CU Boulder majoring in Aerospace Engineering, Engineering Physics, and Applied Mathematics
- Minoring in Computer Science and Economics
- **2 years** lab experience as researcher/engineering consultant to the Smalyukh Research group
  - Optics research + system integration
- **1 year** engineering intern at JSC
  - Systems engineering internship
  - Best presentation award
  - Best intern projects award

Dylan Bossie | Software Development Lead | Bagel Lead
Software Team

Current Technical Role: Lead Software Manager | Optical Camera Image Processing Algorithm Development and Implementation

- Senior at CU Boulder majoring in Aerospace Engineering
- Minoring in Computer Science
- **1.5 years** as software developer for DigitalGlobe
  - Data science for satellite optics calibration
  - Development of atmospheric modeling for satellite imaging
- **Summer internship** as software engineer for Harris Corporation
  - Iterating on ground-based telescope imaging simulation for tracking based on visual magnitude
  - Development of data processing algorithms for analyzing ground-based telescope tracking results

Joshua Kirby | Software Technical Lead
Software Team

Current Technical Role: Lead Software Developer | Computer Vision Algorithm Development and Implementation

- **Concurrent Bachelor's/Master's at University of Colorado Boulder**, 4th Year Student
  - **Major**: Aerospace Engineering Sciences
  - **Minor**: Applied Mathematics
  - **Master's Concentration**: Astrodynamics & Satellite Navigation
- **The Aerospace Corporation, Control Analysis Department,** SU2018 Intern, Continuing Remote Work
  - Attitude Determination System Simulation
  - Star Tracker Modeling
- **Colorado Space Grant Consortium, PolarCube**, 1 yr Avionics Engineer, 0.5 yr ADCS Lead Engineer
  - Star Tracker Algorithm Development
  - ADCS Flight Software Development (C, embedded platform)

Zachary Talpas | I&T Lead

Current Technical Role: **Verification Testing**

- Senior at CU Boulder majoring in Aerospace Engineering
- **Summer Internship** on System Engineering, Integration, and Test Team at Lockheed Martin Space Systems (ORION)
  - Test development
  - Requirement management and allocation

Lara Lufkin | Manufacturing Lead | PAB Lead
Hardware, Testing Team

Current Technical Role: **Coding and Algorithms**

- Senior at CU Boulder majoring in Aerospace Engineering
- **Two years** working as a lab assistant for the Aerospace Labs including the following experience:
  - Structural and hardware design including familiarity with CAD, Instron testing, 3D printing/scanning, and machining.
  - Printed Circuit Board (PCB) design and development including experience with altium, surface mount population, and thermal profiling.
  - Software and Embedded Systems experience including microchip and high-level programming.

Jiarui Wang | Electronics Lead | Critical Documentation Deletion Lead
Hardware, Testing, Simulation Team

Current Technical Role: **Avionics Lead , Hardware / Simulation /Testing**

- Senior at CU Boulder majoring in Aerospace Engineering
- **"Design, Build, Fly"** CU Boulder structural lead
  - designed structure for aircraft and some electronic components
- **5 years** on a robotics team
  - **2 years PM** back in China (pm and systems were like the same role)
- **2 project classes** (Both projects built from scratch):

- built a longboard mechanical brake system
- built a clock will auto adjust time with WWVB)

Sean Downs | Sensors Lead | Lead Barista
Sensors, Software Team

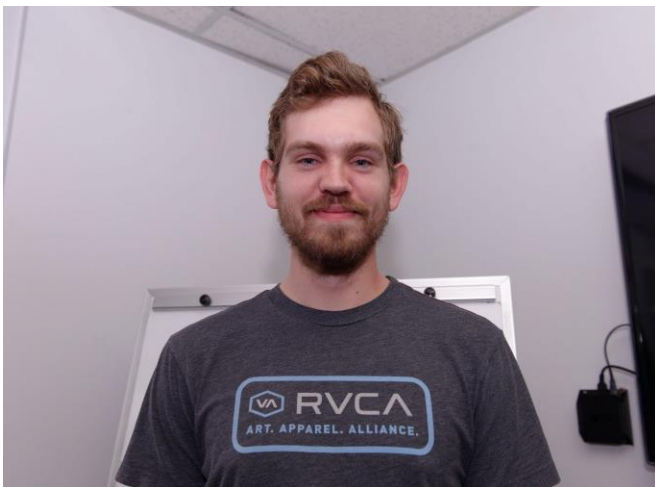Current Technical Role: **Sensors Lead, Optical calibration + sensor alignment**

- Senior in Aerospace Engineering at CU Boulder + Concurrent BS/MS focus in Astrodynamics and Satellite Navigation
- **Summer '18 Internship** at JSC for Orion optical navigation testing
  - optical lab experience testing optical navigation camera.
- **1+ year** Python programming experience
- **Structural engineer on PolarCube** at Colorado Space Grant Consortium
  - Redesigned parabolic mirror (Solidworks)
- **2 intern tours** at NASA Langley doing in-space assembly concept development. (Lots of technical writing)

Justin Fay | Finance Lead | Group Home Lead
Sensors, Software Team

Current Technical Role: **Coding and Algorithms**

- Senior in Aerospace Engineering at CU Boulder
- **Summer '18 Internship** at Boulder Environmental Science and Technologies for dynamic analysis and manufacturing design of deployable space systems
  - Experience writing code for analysis of dynamic systems
  - Experience automating 3d modeling processes
- **1+ year** Python, C, C++ programming experience
- **3+ years** SolidWorks/Autodesk Inventor experience

Richard Moon | Algorithms Lead | Team Logo Lead
Software Team

Current Technical Role: **Coding and Algorithms**

- Senior at CU Boulder, **majoring in Aerospace Engineering and Computer Science**
- Minoring in Applied Math
- Experience in Machine Vision and Machine learning, with a focus on the underlying mathematics on feature engineering and linear programming