

## Patrick Clifton Gray

pgrayobx@gmail.com  
Cell: 252-256-2183

## Permanent Address

800 Market St. Suite 101  
Chattanooga, TN 37402

**Education:** University of North Carolina at Chapel Hill, May 2014  
Major in Computer Science

### Honors:

- Morehead-Cain Scholar - full merit scholarship to UNC Chapel Hill including four fully funded summer programs
- Semester in the Honors Program Exchange at the National University of Singapore (Spring 2013)
- 2015 SEDS-USA Executive Director's Award for Top Staff Member
- 2012 North Carolina Space Grant Undergraduate Research Scholar
- 2010 MATE ROV Robotics Competition International Champion

### Work Experience:

- WayPaver Foundation, Chief Technical Officer**, Chattanooga, TN, USA 2015, Aug. – Present
- assist CEO in senior leadership and oversight of programs
  - lead development of WayPaver's Lunar Settlement Index and technical programs and related outreach
  - manage partnerships with government officials, startups, and researchers supporting lunar settlement
- NC Governor's School, Teaching Assistant / Residential Advisor**, Winston Salem, NC, USA 2015, May - 2015, July
- taught and assisted the Natural Science course track at NC publicly-funded gifted summer program
  - managed a hall of 30 students, ensuring medical, emotional, and mental well-being
- Moon Express, Software Engineer**, Mountain View, CA, USA 2014, June - 2015, May
- developed the MoonEx Ground Data Systems to support the MX-1 Lander and related testing
  - supported the Software/Avionics teams via internal tools, web apps, build systems, sys admin, and embedded systems
  - assisted in mission operations and launch operations for test campaigns at Kennedy Space Center
- Nanopop, Software Engineering Intern**, Rio de Janeiro, Brazil 2013, May - Aug.
- assisted the CTO in developing the company's Android app and handling all IT needs
- UNC IT Dept., Residential Computing Consultant**, Chapel Hill, NC, USA 2011 Aug. - 2012 Dec.
- responsible for over 300 residents and their technical well-being

### Sample of Technical/Research Projects:

- **Data Pipeline and Tool Suite (Moon Express)** – helped to lead development of the Ground Data System and tools such as telemetry visualization, mission ops e-procs, remote monitoring (Python, C, ZeroMQ, Matlab, MongoDB, Flask, Javascript)
- **Lunar Imaging Subsystem (Moon Express)** – developed motor/camera firmware and drivers, data pipeline, and an integrated mission operations and test system to successfully demo a lunar imaging system (C, Beaglebone, GoPro, ITOS, STOL, Procs, Linux)
- **3D Depth Perception (Alterovitz Robotics Lab, lead)** – integrated a Microsoft Kinect with a Linux system running ROS to give a small humanoid robot 3D vision for collision detection (C++, Linux, PointCloud API, OpenNI)
- **High Altitude Weather Balloon Platform (NC Space Grant, Research Scholar)** – managed and led 3 launches of weather balloons for equipment testing and data collection. (Arduino, C++, sensor design, telemetry)

### Leadership and Volunteer Activities:

- Board Member**, James L. Jenkins Memorial Scholarship 2014 May - Present
- manage funds for the Sigma Phi Society, the Alpha of North Carolina's main scholarship program
- Alumni Association Coordinator**, SEDS-USA 2013 Oct - Present
- develop and lead the SEDS-USA Alumni Association from scratch to support the national mission
- Volunteer**, Hamilton County Special Tactics and Rescue Services 2016, May - Present
- provide assistance for local search and rescue, fire department needs, and swift water rescue
- Mentor**, Gigtank Startup Accelerator 2015 Oct - Present
- advise, mentor, and work with multiple startups in community supported incubator program
- Founder and President**, UNC Students for the Exp. and Dev. of Space (UNC SEDS) 2011 Jan - 2013 May
- started and led the chapter to over 40 members running numerous nationally known events and projects

### Other Experience:

- Programming Languages (in order of experience): Python, Javascript, Bash, C, Java, C++, Assembly, STOL
- Specific Tech Experience: Linux, ROS, Arduino, Beaglebone Black, Raspberry Pi, GoPro, Microsoft Kinect, MongoDB, OpenNI, Flask, ZeroMQ, Amazon Web Services, Google Cloud Engine, D3.js, ITOS
- Languages: intermediate Spanish; basic Portuguese, elementary Mandarin
- Certifications: Wilderness First Responder (2016); Scuba PADI (2016); HAM Technician (2016); USHPA Hang 2 Cert (2016)
- Expeditions: Mars Desert Research Station (GreenHab Officer, 2017); Tennessee River 5 day sailing cruise (capt, 2016); Southeast Asia exploration (member, 2013); Month long Sierra Nevada mountaineering expedition (member, 2010)