

# Carson Vogt

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## EDUCATION

*PhD*, Electrical Engineering (focus on graphics), Heriot-Watt University, December 2019  
*MSc by Research*, Robotics, University of Edinburgh, 2015  
*BSc*, Aerospace Engineering, University of Southern California, 2014

## EXPERIENCE

**Naval Research Intern (NREIP)** June –August 2017, June – August 2014, June – August 2013  
Naval Postgraduate School, Monterey, CA

- Worked on embedded, open source systems for UAVs to be used in swarm manoeuvres.

**The Systems Integration Organization (SI Org)** June 2012 – August 2012  
King of Prussia, PA

- Part of the Aerospace and Integration team, uncovered and deciphered MATLAB tools and learned to diagnose satellite issues.

**Vandenberg Air Force Base** June 2011 – December 2011  
Lompoc, CA

- Characterized ground-based sensors for Space Situational Awareness group.
- Began development of a program to make observation abilities apparent to new users.

**Information Sciences Institute (ISI)** May 2009 – April 2012  
Space Engineering Research Center, Marina del Rey

- Was part of the team that helped to create the Caerus portion of the Mayflower-Caerus 3U CubeSat and the Aeneas CubeSat.
- Team lead for LEAPFROG lunar lander avionics group.

## POSTGRADUATE RESEARCH

### MSc Research

- Built an autonomous powered glider to take atmospheric data for wind farm optimization.
- Utilized Gaussian processes to predict local, small-scale weather patterns.
- Designed to fill in for relatively low resolution satellite and weather station data.

### PhD Research

- Considerable experience working with the Raytrix R5 camera and accompanying Raytrix Software
- Used deep learning to enhance extreme low light images. Paper submitted to ICCP 2019, pending review.
- Collected light fields using PR2 and Baxter robots in a spherical parameterization.
- Built several custom light field rendering engines.

### TA Positions

- Two years of overseeing student groups in the UoE *System Design Project* under Barbara Webb.
- One year as TA for *Embedded Systems* at HW under Sen Wang
- At time of writing, preparing for *Computer Architecture* course run by Alexander Belyaev.

## TECHNICAL SKILLS

- Proficient in: C++, SolidWorks, MATLAB, Keras/TensorFlow, Robot Operating System (ROS), Python, OpenCV, Raytrix API, Light Field Toolbox, electronics (including soldering, assembly, measuring etc), RC Piloting.
- Working Knowledge of: XFoil, composites, ActionScript, deep learning.

## GENERAL INTERESTS

- Avid drone racer and exploratory drone creator/operator, both fixed wing and multirotor.
- Constructed an automated greenhouse indoors using RPI and Arduino.
- Dedicated off-roader, expeditioner, and overlander, be it by Jeep or fat bike.
- Grew up riding horses and took up polo while living in Edinburgh. etc...