To whom it may concern,

My name is Carson. I live in Scotland where I'm pursuing a PhD in robotics and graphics, with a focus on novel light field parameterizations and applications. If given the opportunity, I would absolutely take it to join JPL for an internship as, like so many, I'm enamoured with the work being done there and feel with my speciality I could make meaningful contributions in image collection, VR, or SLAM and other robot applications. I'm well-versed in my field, with over a year's worth of research and literature review being completed to date.

On a more personal level, I enjoy a riveting puzzle and can confidently work my way through complex debugging or deciphering of previously written code. I have a diverse background, but have shown considerable depth in particular areas of research and feel I am capable of pushing the state of the art. I believe I am an excellent candidate and would love the chance at an internship at JPL.

Thank you for taking the time to read this,

Carson Vogt

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EDUCATION

PhD, Electrical Engineering (focus on light fields), Heriot-Watt University, December 2018
MSc by Research, Robotics, University of Edinburgh, 2015
BSc, Aerospace Engineering, University of Southern California, 2014

EXPERIENCE

Naval Research Enterprise Internship Program (NREIP) June – August 2013, June – August 2014
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.

TECHNICAL SKILLS

- Proficient in: C++, light fields, SolidWorks (certified), electronics (including soldering), genetic algorithms, Gaussian processes, microcontrollers, Excel
- Working Knowledge of: ROS, SLAM (PTAM and ORB-SLAM2), XFoil, composites, MATLAB, Python, ActionScript, MXML, general machine learning, computer vision

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

- Ongoing light field research for potential scientific applications.
- Utilizing novel data collection and interpolation methods and analyzing potential parameterizations.

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.
- I also enjoy riding horses/polo, music (pianist for 20 years), SCUBA certified, AutoX, and more.