Marcus Ackland

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Graduating June 2018

Education

Royal Institute of Technology (KTH)
MSc, Aerospace Engineering. Space Systems, GPA: 4.96/5.0, 2018
BSc, Engineering Physics, GPA: 4.6/5.0, 2015

University of Illinois at Urbana-Champaign, IL
Exchange Semester, Department of Engineering, 2015

Stockholm School of Economics
BSc, Business and Economics, 2017

Experience

NASA Ames Research Center, Engineering Intern – Mountain View, CA *Spring 2018*
– Writing my Master's thesis at the Intelligent Robotics Group under Dr. Uland Wong.
– Investigating adaptive trajectories for exploring icy moons such as Europa and Enceladus.
Developed skills: MATLAB, C++, Python, ROS, Path-planning

Royal Institute of Technology (KTH), Teaching Assistant – Stockholm, Sweden *Fall 2017*
– Graduate course SD2900 Fundamentals of Spaceflight covering orbital mechanics and rocket dynamics.
– Instructed 50 graduate students 8 hours every week in a project designing a reusable launch vehicle.
– Developed my ability to critically evaluate someone else's work and speak comfortably in front of a classroom.

Royal Institute of Technology (KTH), Research Assistant – Stockholm, Sweden *2016 – 2017*
– Analyzing Hubble data of Europa that can be used to find ways of detecting plume activity on the surface.
– Created a model that can be compared with observations to detect anomalies that could be potential water plumes.
– Co-investigator on HST proposal 15419 that will observe Europa throughout 2018.
Developed skills: Planetary science, Space physics, Image processing

SAAB Dynamics, Software Engineering Intern – Linköping, Sweden *Summer 2017*
– Detecting and localizing pedestrians in IR images using a convolutional neural network.
– Improved localization speed by 0.5s by switching to a 3-layer cascade net for real-time application.
Developed skills: Agile, git, C++, Python, Computer Vision, Neural Networks

KTH Space Center, System Management Team for MIST – Stockholm, Sweden *Spring 2017*
– MIST (MIniature Student saTellite) is a 3U CubeSat built by students at KTH that will perform 7 experiments and technology demonstrations in orbit. Launch is estimated 2019.
– 1 of 2 student managers responsible for the project overseen by ESA Astronaut Christer Fuglesang.
– Main responsibilities include overseeing the experiments. This meant oversight of crucial aspects of building a satellite such as thermal analysis, harness, and mechanical interface.
– Proposed changes in the meeting structure and the way communication was done with customers. Still in close contact with project manager who has now implemented these changes.

Zhejiang University, Undergraduate Research – Hangzhou, China *Summer 2013*
– 15 students chosen in my year to partake in a physics project in China during the summer.
– Created a sensor using Raman-scattering that could detect proteins and diseases.
Developed skills: MATLAB, Microfluidics, Nanotechnology

Languages and Technical expertise

Languages: Swedish (mother tongue), English (fluent), German (elementary proficiency)
Programming: Java, Python, C/C++, JavaScript, OpenCV, git, R, MATLAB, ANSYS, Comsol, LaTeX

Projects

Spotify Wifi hub *2017*
– Participated in a hackathon at Spotify HQ and got the opportunity to use, and give feedback on their new web API pre-release.
– We created an app that allowed anyone connected to control the music, create collective playlists.
Developed skills: React.js, git

Arduino Radar *2017*
– Personal project during the summer to learn more about electronics and writing code for the Arduino.
– Using an Arduino and an ultrasonic sensor, I created a radar that can detect objects up to 5m in front of it.
Developed skills: Arduino, electronics, soldering

Java chat client *2016*
– As part of a school project I created a multi-threaded chat client that could act as a server and client while supporting group conversations.
– Included features such as encryption, sending files.
Developed skills: Java, Sockets