

Joseph Bowkett

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EDUCATION

California Institute of Technology

Master of Science in Mechanical Engineering
Doctor of Philosophy in Mechanical Engineering
Sir Willing Pickering Fellowship

Pasadena, CA, USA

June 2016

June 2019

Current GPA: 3.5/4.0

University of Auckland

Bachelor of Engineering (Honours) in Mechatronics

Auckland, New Zealand

November 2013

GPA: NZ Scale 8/9, 3.67/4.0 equivalent

EXPERIENCE

NASA Jet Propulsion Laboratory

Research Affiliate

Pasadena, CA, USA

April 2016 – Present

PowerbyProxi Ltd

Junior Product Development Engineer

Reference available on request

Auckland, New Zealand

November 2013 – July 2014

- Development and validation of embedded C software on Microchip PIC32MX platform
- Design of mechanical and electrical hardware including PCBs and mounting enclosures
- Interacted with corporate customers such as John Deere to build a profile of their requirements to fit existing products or plan agreed development timelines
- Investigated issue of interaction between field of inductive power transfer circuitry and RF transceivers within packages sealed for industrial environments

University of Auckland, Yacht Research Unit

Undergraduate Research Assistant

Auckland, New Zealand

April 2013 – October 2013

- Constructed racing bicycle aerodynamic drag testing apparatus in twisted flow wind tunnel for commercial client
- Used computer vision to measure frontal area of device under test and an array of force sensors

PowerbyProxi Ltd

Engineering Intern

Auckland, New Zealand

November 2011 – March 2013

- Led a team of fellow engineering interns to develop a novel method of pairing RF transceivers using frequency modulation of power circuitry used for inductive power transfer
- Developed Windows Forms based software for configuring Inductive Power Transfer devices in the field, as well as electrical hardware for testing of RS232, CAN, Ethernet protocols

PROJECTS & LEADERSHIP

Senior Engineering Research Project

February 2013 – November 2013

- Designed and operated automated testing apparatus to investigate how spatial positioning of two coils separated by an air gap influenced efficiency of inductive power transfer, for use by PowerbyProxi Ltd

Senior Multidisciplinary Group Project

September 2013

- Led a team of 24 engineering students on a fulltime week-long project to plan improvements to the city of Auckland's resilience against catastrophic natural disasters, culminating in my presenting our solution to the entire graduating class, engineering faculty and city council members

SKILLS & INTERESTS

Software/Languages: MS Office, MATLAB, Visual Studio, PTC Creo CAD, Solidworks, R, Eclipse, Embedded C, C++, C#, Arduino, ANSYS, Altium, Labview

Interests: Soccer, Tennis, Skiing, SCUBA diving, hiking, Piano, RC Aircraft (quadrotor)