ALAN PETTIT

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Education

Technical University of Munich 2017-2019
M.Sc. Satellite Application Engineering
Satellite navigation specialization

University of Toronto 2012-2017
B.A.Sc. in Materials Science and Engineering (Honours)
Minor in Engineering Business

Technical Skills

Programming: C, C++, Python, MATLAB
Software: Autodesk, SolidWorks, Hyperworks, Catia, Ansys, CES, ImageJ, Microsoft Office
Language: Fluent in English, proficient in French and German
Experience: GNSS, Satellite subsystems, Satellite communications, Systems engineering, Orbital mechanics

Work Experience

IFEN GmbH, Masters Thesis 2019
- Simulated GNSS radio occultation events using raytracing
- Implemented atmospheric and ionospheric models in C++ for software simulator

Husky Injection Molding Systems Ltd., Metallurgy Intern 2015-2016
- Designed and performed experiments for quantifying the wear resistance of DLC coatings
- Performed detailed failure analysis on various machine components, using numerous lab techniques

Project Experience

DEDRA Space Debris CubeSat, Communications Team Lead 2018-2019
- Iteratively designed a communications and ground segment subsystem to meet mission requirements
- Prepared trade studies and documentation throughout the design process
- Attended the ESA Concurrent Engineering Workshop for CubeSats
- Published International Astronautical Congress paper

Human Powered Vehicles Design Team, Project Director 2014-2017
- Directed and managed a 30 member ASME HPVC engineering design team
- Engineered, simulated, built and raced several composite streamlined bikes

TUfast Eco Team, Chassis Team Member 2018-2019
- Designed CFRP rims for an urban concept car, optimized plies using HyperMesh

Awards

- Hatch Engineering Aboriginal Scholarship 2014-2016
- Ontario Professional Engineers Award recipient 2014
- American Helicopter Society Igor I. Sikorsky Prize, Aerovelo team 2013