

Pawel Kupsc

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OBJECTIVE To grow as a multidisciplinary engineer by working on the most exciting and demanding engineering challenges.

WORK

- 7/2025-...** **Business Owner**, Pawel Kupsc - Enskild Firma/Sole Proprietorship, Huddinge, Sweden
Systems engineering consulting.
- 6/2023-...** **Senior Spacecraft Systems Engineer**, Rocket Lab, Auckland, New Zealand.
Requirements management. Spacecraft power analysis. Radiation analysis. Solar array procurement. AIT and troubleshooting at US and NZ Rocket Lab facilities. Work instruction and test procedure writing. Spacecraft functional testing. Coordinating development of a new battery. Circuit design and PCB layout. Wire harness design. EMC testing. Monte Carlo circuit simulation.
Projects: 12Nms Reaction Wheel, Mars ESCAPADE, Varda Winnebago, Viasat Echo, LoxSat, Victus Haze.
- 9/2017-6/2023** **Mechatronics Engineer**, OHB Sweden, Kista, Sweden.
Design of one of the largest flex PCBs in the space industry. Design of a modular EGSE system. CE marking of EGSE. Assisting in spacecraft assembly, integration and test in a cleanroom environment. Developed in-house manufactured sun sensor. Responsible for specifying and procuring complex spacecraft subsystems: OBC, Power Conditioning and Distribution Unit, Solar Array, Harnessing, Battery. Flight engineer during launch and early operations of GMS-T (Power) and MATS (GNC) spacecraft. Programming manual guidance of MATS spacecraft.
Projects: SmallGeo ELECTRA (Electrical), H2Sat (Electrical), GMS-T (Lead Electrical), Arctic Weather (Lead Power, GNC/AOCS). MATS (GNC/AOCS).
Other: Electrical lab responsible. Performed major upgrade of mechanical workshop.
- 9/2016-8/2017** **Radiation Hardness Assurance Engineer Trainee**, European Space Agency, Noordwijk, Netherlands. Planned and performed TID tests and analyzed experimental data from SEE tests of EEE components. Wrote a paper that was published in IEEE Transactions on Nuclear Science. Held poster presentation at NSREC 2017 in New Orleans.
- 6/2015-8/2015** **Firmware Intern** at Nima Sensor, San Francisco.
Developed a highly sensitive algorithm for detection of lines in a sensor image and implemented it in bare-metal firmware on an ARM processor. The algorithm is a central component of a gluten sensor that was listed as one of the '25 best inventions of 2015' in the Nov 30, 2015 issue of Times Magazine.
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PROJECTS

- 1/2016-7/2016** **Master Thesis** at Scania CV AB, Södertälje, Sweden, *Preceding Vehicle Dynamics Modeling for Fuel Efficient Control Strategies*. Developed a novel method of modeling a preceding truck from radar data resulting in 2% fuel savings compared to previously used method.
- 6/2014-9/2014** **Circuit Design and Testing** for the REXUS SCRAP sounding rocket experiment. Gained basic familiarity with FPGAs and with designing multilayer circuit boards.
- 1/2014-5/2014** **Bachelor Thesis**, *Modification of Wall Materials In Fusion Reactors*. Designed and built an automation system for manipulating samples in a particle accelerator ion beam used for tokamak wall analysis.
- 6/2013-8/2013** **Wiring, Electronics Assembly and Carbon Composites Manufacturing** for KTH Formula Student electric race car.
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EDUCATION

- 8/2011-7/2016** **Royal Institute of Technology (KTH)**, Stockholm, Sweden. B.Sc in Electrical Engineering and M.Sc in Systems, Control and Robotics. Courses include: Analog and Digital Electronics, Embedded Systems, Automatic Control, Signal Processing, Test and Measurement, Electromagnetic Field Theory.
- 9/2014-6/2015** **Stanford University**, Stanford, USA. Exchange year. Courses include: Machine Learning, Computer Vision, RF Circuit Design, Digital Signal Processing, Nonlinear Control and Medical Robotics.
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PRACTICAL SKILLS	Certified hand soldering and crimping operator and inspector to ESA standards. Use of electrical test equipment: Oscilloscope, Spectrum Analyzer, VNA etc; PCB layout; Microcontroller programming; Basic machining and welding.
COMPUTER SKILLS	Matlab, Python, C/C++, Eagle CAD, Altium Designer. Autodesk Fusion 360, IBM DOORS, JAMA, LTspice, FASTRAD
LANGUAGES	English: Fluent, Polish: Native, Swedish: Fluent, Spanish: Basic

OTHER	Participated and won prizes in a number of engineering competitions. E.g:
10/2015	Stockholm Startup Weekend IoT: Leader of winning team.
11/2016	Junction 2016: Member of winning team, ' <i>Winner of Software Development to the Personal Helper Robot by City of Helsinki</i> '.
11/2018	Junction 2018: Member of winning team, ' <i>Winner of Munchies Robot Hack by Alepa</i> '

Owner of a home workshop with a wide range of equipment, for example: stereo microscope, oscilloscope, multimeters, torque wrenches, 3D printer and TIG welder.