# Paul **Sammut**

Robotics Engineer

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## Summary

Paul is a robotics engineer that has worked on underwater rockets, has started a consumer product hardware company and a robotics consulting company making marine research robots. He was born with a passion for anything with wires, software, and moving parts. He has over a decade of experience building many combinations of those three things. These projects have taken him on a never-ending learning journey spanning designing ROS autonomous systems, real-time control, embedded electronics, mechatronics, and software/hardware project management.

## Education

**Stevens Institute of Technology** — *Hoboken, NJ*

Bachelor of Engineering in Mechanical Engineering (Aerospace Concentration) — *May. 2009*

**Stevens Institute of Technology** — *Hoboken, NJ*

Master of Engineering in Mechanical Engineering (Robotics Concentration) — *May. 2014*

## Work Experience

**Stocker Freight** — *New York, NY*

Founder — *2017 - 2018*

- Raised FF seed round and founded Stocker, dedicated to creating an autonomous freight service for cities.
- Built a tech-demo street robot name Primo using ROS capable of operating autonomously in the street.
- Integrated multiple stereo cams, mono cams, IMU and other sensors to provide accurate local odometry fused with an EKF.
- Integrated RTAB-Map RGBD slam to create maps and localize within them.

**Robotics Consulting | Rockefeller University** — *New York, NY*

Robotics Engineer — *2016 - 2017*

- Acquired, managed and executed a robotics project to create a 16' autonomous catamaran to aide in dolphin vocalization research. Project culminated with successful field test in Belize.
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**Ramos Alarm Clock | Sammut Tech LLC** — *Hoboken, NJ*

Founder — *2012 - 2016*

- Invented a novel alarm clock that forced users up by use of a remote keypad. Clock inducted in the US National Clock Museum's collection.
- Created a successful Kickstarter and pre-order campaign raising $200K in pre-orders.
- Setup a factory in New Jersey, managed 2 engineers and labor hires to manufacture product.
- Managed capital acquisitions, supply chain, manufacturing plans, inventory forecast schedules, and product strategy.

**Davidson Lab | Stevens Institute of Technology** — *Hoboken, NJ*

Senior Research Engineer — *2009 - Present*

- Managed new technology projects from the specification phase to testing and validation.
- Conducted fundamental physics research on High Speed Supercavitating Vehicles (underwater rockets).
- Created instrumentation and control apparatus utilizing various sensors, pneumatic systems, still and video photography systems interfaced to separate RTOS and standard computers on a custom distributed network.
- Operated, maintained, and upgraded a fleet of UUVs operating in the Hudson River.
- Created HIL testing apparatus utilizing mathematical models to validate system performance.
- Designed electronic wiring systems for power, analog and digital comms and connector solutions.
- Wrote and supported mission critical launch control software for rocket systems.
- Designed and managed the creation of a control surface subsystem with humming bird level dynamic response.

**Institute Machine Shop | Stevens Institute of Technology** *Hoboken, NJ*

Machine Shop Apprentice *2007 - 2009*

- Machined parts based on provided drawings and learned fundamental concepts of Design For Manufacture

## Publications

2012 **Planing-Hull Forces and Moments on a Cylindrical Body in a Cavity,** CAV2012 *Singapore*

2010 **Remote Control and Monitoring of MOOS Vehicles through Cellular Modems,** MIT MOOS-DAWG *Cambridge, MA*

2010 **Guidance of a UUV Using a Passive Acoustic Threat Detection System,** IEEE, WSS *Carrara, Italy*

## Skills

**Software** C, C++, Python, ROS, OpenCV, Real Time Programming, Linux, CMake, Vim Enthusiast, VCS (Git, SVN), Mixed Signal DAQ Programming, LabVIEW, LabVIEW RT, LabVIEW FPGA, cRIO

**Hardware** PCB Layout (Altium, Eagle), MPLAB IDE, Logic Analyzers, Digital-comms (CAN, Serial, $I^2C$, SPI), RF SoCs, uProcs, Power Circuits, Sensors (LiDARs, Force Torque, GNSS, IMUs, AHRS, 2D Cameras, Stereo Cameras, RGBD Cameras)

**Mechanical** Solidworks (16 years exp.), Fusion 360, Complex Tolerance Stacks, Underwater Systems, Precision Actuation Design (Ballscrews, Linear Rails), Materials and Coatings

**Personal** US Security Clearance, USA and Maltese Citizen, Avid Rockclimber