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 RTAB-Map appearance based SLAM to create PCL maps and localize within them.
- Wrote ROS code integrating multiple stereo cams, mono cams, IMU and other sensors to provide odometry fused with an EKF.
- Created a simulation environment with fully defined URDF and custom sim nodes for HIL and SIL testing in Gazebo

Robotics Consulting | Rockefeller University   *New York, NY*
ROBOTICS ENGINEER   *2016 - 2017*
- Acquired, managed and executed a robotics contract to create an autonomous catamaran for dolphin vocalization research.
- Integrated IMU, GPS, Cameras, Motor Controllers, Long Range RF Telemetry and Control, LiFePo4 Battery System, and wrote Mission Control software for autonomous operation.
- Created a publisher-subscribers software framework using the Actor Framework allowing for node-like processes.

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.
- 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, PCL2, 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, ICE Debuggers, Digital-comms (CAN, Serial, I^2C, SPI), RF SoCs, uProcs, Power Circuits, Sensors (LiDARs, GNSS, IMUs, AHRS, 2D Cameras, Stereo Cameras, RGBD Cameras), HIL Testing

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