Daniel A. Stutman

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I hold dual American and EU citizenship, and am open to re-locating anywhere in the United States.

I am an aerospace engineer with substantial personal and professional experience in programming and electrical engineering. I enjoy applying my skillset to solving important, difficult, and inter-disciplinary problems. My motivation stems from the deep-held belief that engineers have a responsibility to improve the human condition.

Education

MSc Space Engineering *Technische Universiteit Delft* 2022-2024
↪ Specialization in Systems Engineering

BSc Aerospace Engineering *Technische Universiteit Delft* 2018-2021
↪ w/ Minor Electronics for Robotics

Key Skills

Programming *Javascript, Python, C, Rust - from the UI down to firmware. Some experience with FPGAs. GitHub.*
Prototyping *3D-printing, laser cutting, 3-axis CNC, manual machining, basic lathing.*
Mechanical Design *CATIA, Solidworks, Onshape, various CAM packages.*
Electrical Design *KiCAD, SPICE, some Altium, some VHDL.*
Other *Leadership, presenting.*

Work Experience

Master's Thesis *The Exploration Company GmbH* (8mo) 2024
↪ Developed novel software to automate verification of complex and evolving systems
↪ Co-developed Nyx spacecraft hazard management and reporting process
↪ Integrated results into existing company infrastructure

Master's Intern *The Exploration Company GmbH* (5mo) 2024
↪ Developed the Hardware in the Loop simulation platform for the Mission Possible spacecraft
↪ Wrote core platform code in Rust and integrated GNC models in MATLAB
↪ Validated numerical and closed-loop accuracy of simulation with GNC team
↪ Supported integration of vehicle avionics with the platform
↪ Worked with multiple teams to execute open and closed-loop tests

Product Engineer *Qblox B.V.* (7mo) 2023
↪ Performed detailed root cause analysis of issues on Qblox's quantum computing hardware
↪ Corrected designs to resolve issues, validated changes, and generated ECOs

Subcontracted Consultant *Boston IP Law Firm* (3mo) 2019
↪ Reverse engineered legacy disk drive and driver for intellectual property dispute
↪ Performed differential cryptanalysis of data format, inferring properties relevant to litigation

MIT Sea Grant Intern *Massachussetts Institute of Technology* (3mo) 2017
↪ Used quadcopter to construct orthomosaics and point clouds of nature areas
↪ Work on integrating FLIR imager with UAV to map coastal sea grass fields

Publications

"...Re-entry Capsule & In Orbit Demonstration Platform" *IAC 2023* 2023
https://dl.iafastro.directory/event/IAC-2023/paper/76291/

"...RF generator for driving Acousto-Optical devices..." *12th EASN Conference* 2023
https://iopscience.iop.org/article/10.1088/1742-6596/2526/1/012120/

References

Jon Reijneveld Chief Engineer *The Exploration Company GmbH*
Marijn Tiggelman Quantum Systems Architect *Qblox B.V.*
Jurgen Vanhamel Assistant Professor *TU Delft Space Systems Enginering*

Contact details available on request.

Project Experience

Cubesat Payload *DaVinci Cubesat Team* 2020-2021

- ↪ Designed payload for detecting radiation induced bit-flips in SRAM memories
- ↪ Carried out detailed electrical, thermal, and mechanical analyses
- ↪ Wrote firmware to bring-up and test prototype boards
- ↪ Laid out high density PCB including MCU, many SRAM, and fault-tolerant power section
- ↪ Hand-built and brought-up prototype PCBs according to ECSS guidelines

RF Generator for Driving AO Devices *Technische Universiteit Delft* (6mo) 2022

- ↪ Designed extremely compact, low distortion RF generator with broad tuning range
- ↪ Designed Arduino HAT for testing with flexible clocking and synchronization capabilities
- ↪ Performed RF filter analysis, including Monte-Carlo simulations over temperature and tolerance

Cost Effective 3D Printers *Independent Project* (~6mo) 2021

- ↪ Designed and built Delta kinematic printer with low cost zero backlash magnetic bearings
- ↪ Designed and built CoreXY kinematic printer from spare parts
- ↪ CoreXY printer had comparable performance to commerical offerings several times its price

Quadcopters and Flight Controls *Independent Project* (~6mo) 2019

- ↪ Designed and implemented Unscented Kalman Filter for attitude estimation
- ↪ Designed, built, and brought-up several flight controllers (PCBs)

“Saturday Thing” Workshop *MIT Edgerton Center* 2015-2018

- ↪ Helped lead ROV workshop for Chinese high school students
- ↪ Worked on team projects, including a small autonomous boat to measure temperature gradients in the Charles River
- ↪ Tested impact characteristics of self-driving model car on lamp post

Other Achievements

Eagle Scout *Boy Scouts of America* 2018
National Merit Scholarship Semifinalist 2017
Gold Medal, Massachussetts Science Olympiad 2016
Amateur Radio License (K1DAS) *Federal Communications Commission* 2011